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News Highlights

Indo-Soviet Trade Protocol

The annual Trade Protocol for 1979 between India and USSR, which was recently signed in New Delhi, envisages a total turnover of Rs. 12,000 million. The target of trade turnover set for 1979 is 15-20 percent higher than the expected turnover for 1978. A number of non-traditional products in addition to traditional goods are included in the export list. The imports would include petroleum products, fertilizers, non-ferrous metals, cement, machinery etc. for Soviet-assisted projects in India.

Indo-GDR Protocol

As a result of a Protocol signed at the conclusion of the third session of the Indo-GDR Joint Commission for Economic, Scientific and Technical Co-operation in Berlin recently, the exports of iron ore, light engineering goods, handicrafts and products of small scale and rural industries from India to GDR would get a boost. The Protocol has identified specific projects for manufacturing specialised films and machinery for textile, dairy, chemical and machine tools industries and lignite mining that provide scope for further collaboration.

(*Contd. on page* 2)

Export Performance and Potential

Strengthening Indo-French Economic Co-operation

India and France have agreed to make efforts to double the volume of bilateral trade in the course of next four years. This was indicated in the agreed minutes of the first meeting of the Indo-French Committee on Economic and Technical Cooperation, which concluded recently in New Delhi.

The French delegation to the meeting was led by Mr. J.F. Deniau, Minister for Foreign Trade, and the Indian delegation by Mr. Mohan Dharia, Union Minister for Commerce, Civil Supplies and Cooperation. The Indo-French Joint Committee was set up in January 1976, through exchange of letters between the two Governments and is a successor of two separate Committees which were set up earlier at the Government level, viz. the Indo-French Economic Commission under the Trade Agreement of 1959 and the Indo-French Study Group on Economic and Technical Cooperation set up in 1973.

The Committee, which met between December 19 and 22, 1978, reviewed the entire range of economic relations between the two countries, examined difficulties and obstacles and discussed ways and means of promoting these relations. Both sides agreed that in order to lend continuity of action to the work of the Committee, a Monitoring Group should be set up. The Group, which would be small and informal to begin with, could meet alternately in the two countries between the formal meetings of the Indo-French Committee.

Indo-French trade has shown considerable growth in the last few years. The total trade turnover which was Rs. 828 million in 1972-73 rose to

Promoting Indo-North Korean Trade

A high-powered Purchase Mission from Democratic People's Republic of Korea is currently visiting India with a view to signing on the spot contracts for items of import and export interest. The Mission is a follow-up to the visit of the Foreign Trade Minister of North Korea in October last year, which created a lot of awareness about the capability and capacity of India as a supplier of many sophisticated items.

Higher Industrial Growth Rate

The latest review brought out by the Union Ministry of Industry reveals further improvement in industrial production in a large number of industries. The average growth rate of industrial production between April-November 1978, has been 8.3 percent exceeding the target rate of growth of 7.8 percent.

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Rs. 3010.3 million in 1976-77. During the first 11 months of 1977-7 the two-way trade stood at Rs. 2728.20 million. Both sides, howeve agreed that in spite of recent increase in the level of exhanges, the volun of trade between India and France was not proportionate to the econom strength of the two countries. It was decided that all efforts should b made for its increase and diversification.

The Indian side wanted to increase its exports particularly of processe food, furniture, carpets, sports goods, engineering goods, leather gooc and marine products. While the French side regretted the decrease i its exports of agricultrual products, it expressed satisfaction on the develo ment of its exports of steel, chemical products and aircraft. It also expresse the wish that its share in Indian imports of machinery should b increased significantly.

The French side, recalling the efforts made by the French Centre for Extern Trade in favour of Indian exports, indicated that the CNPE (Nationa Council of French Manufacturers) were organising a delegation of indus rialists which was scheduled to come to India during the first quarter o 1979. The Indian side, expressed its satisfaction on the French initiativ

The Indian side pointed out that quantitative restrictions, regional quot levels within the overall EEC quotas and the implementation of impor regulations were creating difficulties for Indian textile exporters, speciall for those in the handloom sector. The French side, having noted tha Indian textile exports to France had substantially increased during th last three years, said that since this trade took place within the framework of a specific agreement between India and the EEC, these matters should properly form part of discussions between India and the European Commission. The French side would endeavour within the limits of its competence, to reach satisfactory solutions for the parties concerned.

The French side wanted to export more agricultrual items like rape-seed oil to India. It also said that it could consider importing from India ground-nut cakes and meal. The Indian side suggested the possibility of exports of de-oiled rice bran, spices and processed food to France.

In the agriculutral field, the two sides discussed the general project for th construction of an insecticides plant in Andhra Pradesh and gave special attention to cooperation in production of small farm machinery. With regard to cooperation in third countries concerning irrigation, water resources, and solar energy, the Indian delegation suggested organizing a special forum.

In the industrial field, the French delegation expressed the wish of being kept informed of the final decision to be taken by India about the planned construction of "on shore" steel plants and mentioned the desire of French industry to be associated with this new phase in the development of India's steel producing capacity. The Indian side said that possibilities for cooperation existed in the case of Paradeep and Mangalore plants. The French side said that a team from COFRANSID was expected to come to India very soon, with a view to examining whether French industrialists could help India process some of its iron or, if necessary, even establish a steel mill and, in exchange, France could consider buying from India iron ore.

Regarding coal production, the French delegation reiterated an earlier offer to study an integrated project including mines equipment and the

possible purchase of steam-coal up to one million tonnes per year, provided that it reached French ports at a competitive price. The Indian side expressed its interest in this proposal.

The French side also indicated that the French Coal Board (Charbonnages de France) had recently examined the possiblity of offering cooperation to India in mine-safety, development of thick seam coal mines and upgradation of coal. It would be sending very ssoon to CMPDI detailed propositions in these three areas.

Regarding cooperation between India and France for the Bombay High Oil Field development, both sides agreed that the success of the August, 1977 symposium, in which the main French firms specialising in oilfield equipment participated, could lead to increased cooperation in the exploitation of Indian oil resources. The two sides also noted that a beginning had been made towards the implementation of the cooperation agreement between the Central Electricity Authority and the Electricite de France. India is interested in obtaining know-how from EDF on systems planning and bulb type low head turbines. In this connection the French side disclosed that some French firms were interested in a certain number of power projects in India.

The Indian side referred to the visit by the delegation from the French Ministry of Industry in January, 1978, to discuss cooperation in the field of electronics. The Indian side indicated its interest in cooperation in the field of computer peripherals, computer software including application and system software. It was noted by the French side that a delegation form India would be going to France in three or four months.

The two parties agreed that possibilities of collaboration could materialise for minerals (aluminium, alumina, lead, zinc, etc.) concerning either survey of new depositis or opening of new mines and further processing.

Both sides agreed that there were many complimentarities between Indian and French industries and prospects for cooperation in third countries were bright. The French side indicated that wherever a French company had estaablished close contacts with Indian companies, cooperation in third countries could be envisaged. In this connection, the French side mentioned several projects in the Middle East and the Gulf area where Indian companies were bidding and where cooperation between the two countries was possible.

The Indian side emphasised the importance it attached to an early agreement on the Common Fund, particularly regarding contribution to the second window. After recalling its own position, the French delegation indicated that it was taking due note of the ideas outlined by the Indian side. The Indian delegation also stressed that safeguard action under Article XIX of GATT should be non-discriminatory and be taken on an MFN basis.

It was decided that the next meeting of the Indo-French Committee would be held in Paris about one year later subject to the convenience of the two parties.

It may be mentioned that India's exports to France increased from Rs. 459 million in 1972-73 to Rs. 840.1 million in 1975-76 and Rs. 1618.2 million in 1976-77. During April-February 1977-78, the exports were worth Rs. 1257.2 million. India's imports from France increased from Rs. 369 million in 1972-73 to Rs. 1852.2 million in 1975-76 and Rs. 1402.1 million in 1976-77. During the first 11 months of 1977-78, the imports were worth Rs. 1471 million.

The import figures showed a phenomenal increase in 1975-76 mainly due to imports of wheat valued at Rs. 690 million. During 1976-77, the imports declined and exports increased considerably.

India's major exports to France include clothing, cotton textiles, leather and leather goods, oil cakes, gems and jewellery, marine products, engineering goods, coir product and coal. India's major imports from France compsise machinery and transport equipment, vegetable oils, chemicals, iron and steel and synthetic fibre.

Indo-Bulgarian Trade in Freely Convertible Currency

The Governments of India and the People's Republic of Bulgaria have concluded an agreement in Sofia regarding the liquidation of rupee balance and rupee payment obligations consequent on the termination of the present Trade and Payments Agreement between the two countries on December 31, 1978.

It has been decided that with effect from January 1, 1979 all trade and payments transactions between India and Bulgaria will be concluded or settled in any freely convertible currency mutually agreed upon between the contracting parties.

The new agreement envisages that payments in respect of contracts or agreements upto December 31, 1978, shall continue to be made in non-convertible Indian rupee. Payments in respect

of all contracts other than deferred payments contracts should be completed before December 31, 1979. If there still remain some contracts unsettled on December 31, 1979, the two Governments will mutually agree on the dates by which these should be settled.

It is proposed that long-term arrangements should be made in regard to items of mutual interest. In this connection the Bulgarian side indicated that possibilities existed in the field of fertilizers, chemicals, pharmaceuticals, steel products, electronics, machinery, complete plants and special equipment etc. for such long-term arrangements; on the Indian side , iron and maganese ore, leather and leather goods, oil cakes, raw opium and pharmaceutical raw materials, consumer goods, textile and other machines, etc. were mentioned as items of interest.

One Long Term Agreement for import of urea for the next three years between the Mineral and Metals Trading Corporation of India and M/s. CGI-MIMPORT of Bulgaria was also signed.

It may be recalled that the trade protocol for 1978 has envisaged a total trade turnover of Rs. 1130 million between the two countries. Bulgaria is an important trading partner of India among the East Europeen countries. Indo-Bulgarian rose from Rs. 100 million in 1963 to about Rs. 400 million in 1977. Certain new export and import items were included in the protocol. The new items including for export from India relate to printing machinery, cosmetics and stationery items. For import from Bulgaria, the items included are metal-cutting tools and measuring instruments, cargo vessels sunblooner seed oil, synthetic and man-made fibres, raw silk and newsprint.

India's exports to Bulgaria mainly comprise jute, pepper, hides and skins, oil cakes, groudnut, tobacco, tea, coffee, steel products earth moving machinery, dyes, leather items and cotton textiles. Some of the important items which Bulgaria has been supplying to India are urea, chemical products, dyes and pharmaceuticals, electronic items and various steels.

UK Delegation Calls on Chairman Railway Board

A two-man delegation from United Kingdom recently discussed mutual problems and operations of the Railways in India and UK with Mr. K. S. Rajan, Chairman and other Members of the Railway Board.

The delegation consisted of Mr. P. E. Lazarus, Deputy Secretary, Department of Transport, Industries and International Policy, UK and Mr. John Welsby, Senior Economic Adviser, UK.

Giving an idea of the dimensions of the operations of the Indian Railways, Mr. Rajan stated that roughly the annual revenue expenditure and capital investment of the Indian Railways amounted to Rs. 50,000 million. About 10 million passengers were carried every day. The route kilometrage was more than 60,000 . The Indian Railways carried about 85 percent of the bulk commodities and had approximately 8,000 steam locomotives. He expected that steam locomotives would be phased out by the end of the century and replaced by electric and diesel locomotives. Majority of the rolling stock and signalling apparatus was manufactured by the railways themselves The Integral Coach Factory annually turned out about 750 coaches, the Diesel Locomotives workshop at Varanasi produced about 150 locomotives, and Chittaranjan Locomotive Works-manufactured about the same quantity of electric/diesel locomotives.

Mr. P. E. Lazarus stated that the UK delegation was greatly impressed by the large dimension of the operations of the Indian Railways. This was obviously so because India was almost 11 times the size of the United Kingdom and her population was enormous as compared to the population of the United Kingdom.

He said that he was pleasantly surprised that the Indian Railways were making a marginal profit after paying a 6 percent dividend to the general exchequer on its capital investment.

The Railway Board Chairman informed the delegation that the Indian Railways provided the back-bone of traffic not only for long distance passengers but also for essential goods like coal, cement, iron and other similar commodities.

In addition, said Mr. Rajan that Indian Railways carried a social burden not only for their employees but also for the society in general. They provided housing accommodation to about 35 percent of the employees, ran 53 full-fledged hospitals with about 2000 doctors. They also ran several educational institutions for the children of their employees.

Promoting Indo-North Korean Trade Flows

A high-powered Purchase Mission from Democratic People's Republic of Korea led by Mr. Pak Sei Chan, Deputy General Director of the Foreign Trade Ministry of North Korea is currently visiting India with a view to signing on the spot contracts for items of import and export interest. Mr. Chan

companied by six other members presenting Korea Ferrous Metals port and Import Corporation, Korea ood Stuff Export and Import Corporion, Korea Chemical Export and nport Corporation, Minerals Export id Import Corporation , Machinery xport and Import Corporation, Korea on-Ferrous Metals Export and Imort Corporation.

This high-powered Purchase Mission is follow-up to the visit of the Foreign Trade Minister of North Korea in October last year, 1978 which created lot of awareness about the capability nd capacity of India as a supplier of hany sophisticated items. The main nterest of the Purchase Mission is in btaining from India manganese ore, hrome ore, ferro-managenese, ferrohrome, sugar, dumpers, marine diesel ngines, trucks and lorries, road rolers, iron ore, tyres, conveyor belts, ute bags, cigarette making paper, petrol, diesel, wire ropes, wheat, dyes nd chemicals, machine tools and cutng tools, plastic netting for paper naking, mica, textile piecegoods, polyhene, bearings, nylonyarn and nylon cord cloth, etc.

North Koreans or the other hand, re offering to supply to India cement, teel plates, zinc, PVC powder, calcium carbide, hops and pepperment oil, etc.

India to Train Vietnamese Oil Technicians

India has agreed to train Vietnamese echnical personnel in various disciplines of oil exploration to help Vietnam develop their oil industry.

Assurance to this effect was given by the Union Minister for Petroleum, Chemicals and Fertilisers, Mr. H. N. Bahuguna, to the visiting Vietnamese Oil Minister Mr. Din Duc Thien when the latter had final round of disussions with him at the conclusion of his tenday visit to the country.

The Vietnamese Minister said that his delegation was impressed by the work India had been able to do in the field of petroleum exploration and promised that he will place his views before his Government regarding long term bilateral cooperation between the two countries.

India has also agreed to process and evaluate seismic survey data for Vietnam who have undertaken both on shore and off-shore exploration work in their country. This will be done for them by the Oil and Natural Gas Commission.

During their discussions, India's Minister said that although India had commitment to its own oil exploration programme, it would not hesitate to offer whatever assistance it could give to Vietnam in terms of men and material.

The Vietnamese Minister said that the process of cooperation which began with his visit to India, will continue further because a lot more would need to be done by Vietnam in which India's cooperation and help would be required

Indo-Norwegian Agreement on Fisheries Equipment

India and Norway recently signed a plan of Operation for the supply of equipment to Central fishery institutions and projects in this country. The document was signed by the Joint Secretary (Fisheries) in the Department of Agriculture, Mr. R. K. Saxena, on behalf of Union Department of Agriculture and by Dr. O. Christenson on behalf of NORAD.

Norway has provided Rs. 4.8 million out of the Norweigan aid for procuring equipment and spares, during the year. A sum of Rs. 64 million has been placed at India's disposal for boat building programmes.

Norwegian aid was available to India for procurement of fisheries equipment since 1972. The aid was Rs. 4.8 million in 1972, Rs. 3.2 million each in 1973 and 1974 and Rs. 5.4 million in 1975. During 1976-77 Norway provided Rs. 6.4 million to India for procuring fisheries equipments for Central Institutes and construction of one fisheries research Vessel for Central Marine Fisheries Research Institute, Cochin.

Apart from the above aid, Norway has provided to India financial and technical assistance for construction of six fisheries survey and training vessels at Goa Shipyard for Exploratory Fisheries Project, Central Institute of Fisheries, Nautical and Engineering Training, Cochin and Central Institute of Fisheries Education, Bombay.

Austrian Teams to Visit India

Two delegations from Austria, one of steel experts and the other representing industry and trade, are expected to visit India to follow up the talks the Union Industry Minister, Mr. George Fernandes had with the Austrian Chancellor Bruno Kriesky, Industry Minister Dr. Startbacher and the State Secretary for Economic Affairs Prof. Nusbaumer recently.

Mr. Fernandes visited Vienna on his way back home from Tripoli where he had attended the meeting of the Indo-Libyan Joint Commission.

The talks covered a wide range of fields of industrial and technical collaboration, from steel plants to mopeds. They discussed the expansion and diversification of Triveni Structurals Limited,

Naini, which has an ongoing collaboration with Voist Alpine of Austria. The expansion would involve the upgrading of technology and diversification into paper, pulp and cement machinery. It was proposed that both the Government of India and Voist Alpine should widen the share capital base of the Company in which they hold 51 percent and 49 percent shares respectively. The Austrian equity is expected to be increased by Rs. 10 million with India also contributing proportionately.

Austria will also consider financial and technical collaboration between PUCH of Austria and Scooters India Limited for the manufacture of motor cycles, mopeds and other two-wheelers.

Participation of Austria in the expansion and modernisation of the Durgapur and Roukela a steel plants will also receive the active consideration of the Austrian Government, it was agreed.

Besides, the Austrian Government will consider both equity and technical collaboration in the proposed Managalore steel plant with initial capacity of 1.5 million tonnes going up to 4 million tonnes.

During the discussions , the possibilities of expanding trade between the two countries, particularly exports from India, were also discussed.

India's Industry Minister emphasised the need for Austria to increase its imports of textiles, particularly of handlooms, from India. He also suggested that Austria should import coffee and tea directly from India rather than through third countries. There was also scope for Austria importing labour-intensive engineering components, he pointed out.

In his meeting with the Chancellor, the Indian Minister explained the possible areas of cooperation between the two countries. He emphasised the need for the industrialised countries to expand their involvement in the economic growth of developing countries particularly in the context of the LIMA declaration and the UN resolutions.

Chancellor Kriesky affirmed his country's commitment to the development of the third World and to expansion of economic and technical cooperation between India and Austria. The Chancellor also accepted the invitation to visit India and stated that this would be possible in the autumn of 1979.

Man-Made Textiles Fair

Exports of rayon and synthetic textiles will get a boost on account of the Man-Made Textiles Fair which is scheduled to be held on January 20-22, 1979 at Taj Mahal Hotel, Bombay. Over 100 buyers are expected to attend the Fair. Those buyers represent Aden, Austrialia Bahrain, Bangaldesh, Belgium, Cyprus, Dubai, Fiji, France, Ghana, Holland, Hongkong, Italy, Japan, Kenya, Kuwait, Malawi, Malaysia, Mauritius, New Zealand, Nigeria, Pakistan, Singapore, Sri Lanka, Sudan, Sweden, Switzerland, Thailand, England, USA, and Uganda.

The main features of the Fair include exhibition/fashion show on each day presenting Indian fabrics in latest styles and buyer-seller conference. There will be 59 stalls in the exhibition and the participants include most of the leading Indian manufacturers and exporters. As usual, the manufacturers will show at this Fair new items specially produced for this occasion alongwith the qualities which are being exported at present. It is expected that more than 1000 items will be put on display in the exhibition. Fashion shows a being organised as straight walk- trade shows. Those will be meant e clusively for the buyers and parti pants in order to facilitate selection material used in the outfits and bu ness discussion about it on the sp The outfits will remain on display duri the Fair.

The buyer-seller conference provid a forum to Indian exporters and ove seas buyers to meet each other a discuss about overseas demand, wh Indian industry can supply, as to wh it needs to do to adopt productio and develop new items, improvemen that may take place in marketing mat ods including documentation, aemp ing, etc. and undertaking joint pr duction and marketing programme The conference has been found to b useful in creating a right type of atmo phere for business promotion.

It is the endeavour of the Silk an Rayon Textiles Export Promotio Council to provide both formal an informal setting to the Indian exporte and overseas buyers to meet fo promotion of business.

Export performance of rayon and syn thetic textiles during the period April November 1978 at Rs. 254.7 millio shows an improvement of 8.9 percen over the performance of Rs. 233.8 million in the corresponding period las year. The highlights of the trade in clude an increase of Rs. 18.30 pe metre in the average unit value realis ation and expansion in export trade i polyoster-blended fabrics, garments an rayon tyre yarn. Trade in rayon fabric is also expected to expand substantiall since the uncertainty about suppl of rayon yarn against exports at agree price has been removed and exporter will start getting yarn in replenishment

World demand for rayon fabrics and rayon garments is rapidly rising. Indian industry which has a large rayon fibre/yarn and fabrics production base can take full advantage of it. Man-Made Textiles Fair provides a unique opportunity in that direction.

Potatoes Exports Without Ceiling Restrictions

A meeting was recently convened in New Delh by Mr. Mohan Dharia, Union Minister for Commerce, Civil Supplies and Co-operation, to review the position of potatoes exports to be undertaken by the National Agricultural Co-operation Marketing Federation (NAFED) in the coming season. It has been decided in the meeting that potatoes will be allowed to be exported freely without ceiling restrictions in view of the easy production situation and in order to protect the interest of growers and to give proper incentives for sustained production.

A programme of exporting of at least 25,000 tonnes of potatoes in the current year was announced on October 25, 1978. The Government has been receiving a number of representations from the potatoes producing States about the bumper winter crop of potatoes that is likely to be harvested. It is expected that the potato crop specially in Punjab, Haryana and Uttar Pradesh would be far more compared to last year. The production of export varieties Chandramukhi and Military Special is also expected to record increases.

The export of potatoes will continue to be canalised through NAFED. However, the exports can be undertaken by State agencies, cooperatives and traders as associates of NAFED. NAFED would be extending all assistance and guidance to the potato exporters.

Exports of HPS Groundnuts Resumed

The Government of India has decided to resume exports of handpicked and selected (HPS) groundnut, and to canalise tham through the National Agricultural Cooperative Marketing Federation (NAFED). Mr. Mohan Dharia, Union Minister for Commerce, Civil Supplies and Cooperation had reviewed the position of groundnut in consultation with the Union Minister for Agriculture, Mr. S.S. Barnala, and the Minister of State for Agriculture, Mr. Bhanu Pratap Singh, and other officers recently.

A complete review of the oil and oilseeds situation for the oil year 1978-79, and an assessment of the corp prospects of groundnuts was made. The supply of edible oils was found to be comfortable and adequate planning for the rest of the year had already been done. The prices are also well under control. Under the circumstances, it has been decided to resume exports of HPS groundnut without its having any adverse impact on the prices of groundnut oil in the country.

The decision to canalise exports through NAFED will ensure that a due share of profits from the exports of this important item, which fetches between $900 to $1,000 per tonne reach the farmers and the cooperatives. It will also facilitate programmes aimed at strengthening the production base. To begin with, a quota of 25,000 tonnes has been released through NAFED.

This is one of the seires of decisions taken in relation to the Government's export policy on agricultural products. It will be reaclled that a Task Force for agricultural exports had been set up by Mr. Dharia with a view to evolving a scientific and sustained approach to tap fully the potential of this sector, which not only promises substantial earnings of foreign exchange, but will considerably benefit the farmers and their cooperatives. While some of the recommendations of this Task Force have already been implemented, a decision on the rest is expected to be taken shortly.

Industrial Growth and Diversification

Higher Industrial Growth Rate

The rate of growth of industrial production in the month of November 1978 was 10 percent higher than that in November 1977.

The latest review brought out by the Union Ministry of Industry indicates a further improvement in industrial production in a larger number of industries.

While releasing these figures Mr. George Fernandes, Union Minister of Industry, stated that this was due to the hard work put in by all those concerned with keeping the wheels of production moving. He also complimented the various production ministries for their effective monitoring arrangements that have yielded these good reslts. The Minister has directed that the ongoing exercises for the 1979-80 production plan should be expeditiously completed.

The figures reveal that in some of the crucial industries sustained effort has enabled them to overcome the adverse impact of the October floods particularly in the eastern states. Output of coal, generation of electricity and steel production have shown considerable improvement. It is expected that this

will now be sustained in the remaining part of the year.

Coal production has increased by 12.2 percent over the previous month and by 5.6 percent over the production in November 1977. Generation of power is higher by 13.4 percent over November 1977, while steel production from the integrated steel plants, which had been showing a decline, has registered an increase of about 2 percent in the last month. The mini steel plants continued to do well with an increased production of 11 pecent over the production in October 1978 and an increase of 55 percent over November 1977.

The output of aluminium, vanaspati, cotton textiles, jute manufactures, fertilizers, commercial vehicles, cars, jeeps and tractors has shown a substantial improvement over the last year as well as over previous months.

Over the corresponding month of 1977, aluminium production has increased by 14.7 percent in November, 1978, sugar production by 29 percent, vanaspati by 30.2 percent, cotton yarn by 17 percent, cotton cloth by 12.2 percent, jute manufactures by 11 percent, nitrogenous fertilisers by 12.5 percent phosphatic fertilisers by 25 percent, commercial vehicles by 18.5 percent, cars by 32.7 percent, jeeps by 146.2 percent, motor cycles by 56.1 percent, diesel engines by 41.4 percent and tractors by 38.3 percent.

A significant feature in the textile industry has been the record production of cotton yarn which has increased by about nine percent in the first 9 months of the current financial year. Yarn output has never before shown an increase of this order in any one year in the past.

As compared to this the production of cotton cloth from the organised sector during the same period has increased by a little over 2 percent which indicates a substantial increase in the production of handloom and powerloom cloth. This is the direction which the new Textile Policy has sought to give to the textile industry.

It is also evident that in the last three or four months, growth in industrial production has also been more evenly distributed among different industries.

The number of industries showing a shortfall in production has been reduced from 52 in the period April to June 1978 to 38 over the period April to October 1978. Correspondingly the number of industries showing rates of growth upto 8 percent increased from 27 during the period April to June 1978 to 41 in April-October 1978.

On the basis of the latest figures, the average growth rate of industrial production between April-November, 1978 has been 8.3 percent exceeding the targetted rate of growth of 7 to 8 percent. The Government is confident of maintaining it, if not improving upon it, in the remaining three months for the year.

Record Production of Mini Steel Plants

Mini steel plants produced 1.11 million tonnes of ingot steel during the first eight months of the current financial year (1978-79), as against 0.725 million tonnes in the corresponding period last year. The industry has thus registered a growth rate of over 53 percent. Stating this in his inaugural address at the eighth annual gemeral conference of the Steel Furnace Association of India recently in New Delhi, Mr. Mantosh Sondhi, Union Secretary, Ministry of Steel and Mines, described the production of 190,000 tonnes of liquid steel by the mini steel sector in the month of November alone as a high watermark and said that going by the current trends, the annual target of 1.5 million tonnes of ingot steel set for mini steel plants was likely to be exceeded.

The Chairman of the Steel Furnace Association of India, Mr. C. R. Rathi attributed the revival of the ministeel industry to the various steps taken by the Union Steel Ministry to boost production in this sector, including excise duty concessions, waiver of import duty on ferrous scrap, permission to diversify to alloy steel and castings, liberal financial assistance for diversification and rehabilitation, steps for the production of sponge iron on a long -term basis and upward revision of the prices of products from integrated steel plants which has been a boost to the mini steel plants for their survival.

The Union Secretary appreciated that the industry had responded well to the relief measures taken by the Ministry to ease the raw meterials position and dispelled fears, that the Government would frown on any legitimate profits which would be both warranted and necessary if the industry had to honour its repayment commitments to the public financial institutions. Such gross profits would also be justified if these were ploughed back for purposes of technological upgradation, quality control modernisation and for balancing equipment, quality control, modernisation and for balancing equipment facilities. Such a plough-back would help the small furnaces in particular in buliding up long-term viability. For ultimately, the greatest guarantee of the industry's health should steam from its inherent srength and it should not depend on outside crutches. This strength would

grow by the industry's willingness at all times to service the needs of the customers in terms of an unbroken record of quality, prompt delivery and prices which the customers regard as reasonabe.

Referring to the problems in terms of both availability and prices of scrap in the domestic market as mentioned by Mr. Rathi, the Secretary said that while those were understandable, every effort should be made by the industry to fully avail of the steps taken to facilitate import of melting scrap. At the same time, it must also be realised that reliance on imported scrap could only be treated as a temporary expedient. It is equally clear that augmenting generation of scrap even in the long term in the economy would not provide a full solution to input problems, notwithstanding the efforts recently mounted towards large scale ship-breaking for both employment generation and yielding a source of scrap for melting and re-rolling purposes. It was in this context that the need for an alternative raw material of sponge iron had to be viewed. He said that it was in the national interest as well as in the interest of the mini steel industry that there was no let-up in the pursuit of the current programme for establishing sponge iron production in the country on a stable and long—term basis. A pilot plant was being set up in SAIL based on coal gassification and 30,000 tonne plant at Kothagudam in Andhra Pradesh based on solid reduction. The operational experience gained from these experimental plants should pave the way for the evolution of a blue print and its implementation for a massive development of sponge iron in the industry. He said that possibility was also being explored with certain countries in the Middle East, which were endowed with cheap natural gas resources, whereby iron ore pellets exported from India could be converted into sponge iron for reimport into India for use by mini steel plants.

About basic pig iron, which is the other alternative raw material for mini steel plants the Secretary cautioned that on present indications the production of saleable pig iron from integrated steel plants, after taking care of their own needs of steel making and those of the foundry industry, would not in the foreseable future leave any major surplus for catering to mini steel requirements, though any temperary surpluses of basic pig iron could be considered for diversion to mini steel industry.

The Association was assured that the concern voiced about a 15 percent hike in prices by one of the electrode manufacturers and also the continued lockup of funds to the extent of Rs. 3 million with the Project and Equipment Corporation (PEC) which had not yet been refunded, would be taken up with the authorities concerned in an effort to see what relief could be given to the industry.

The Union Secretary said that while production performance during the current year was one in which the industry could legitimately take pride, it would not do to rest on this but plan for a steady minimum of 25 percent compound growth rate from year to year from 1979-80. In the accomplishment of this task, the mini steel industry could rely on the continued support of the Steel Ministry.

Ensuring Supply of Petroleum Products

The annual consumption of petroleum products for the year 1979 is expected to be around 30.5 million tonnes of which around 4.1 million tonnes will be imported and the balance, namely, around 26.4 million tonnes will be produced by India's own refineries. The total amount of crude which will be required to be imported during 1979 to supplement indigenous production or crude is expected to be 16.57 million tonnes. This quantity of crude would have cost the country Rs. 14,240 million at current prices. However, at the prices now announced by OPEC, the total import bill for this curde will be Rs. 15,660 million. The cost of 4.1 million tonnes of products to be imported will be Rs. 4680 million, making a grand total of Rs. 20,340 million. This is approximately, 10 percent higher than it would have been if there had been no price hike.

It is planned to increase production of crude oil from ONGC fields to nearly 15.2 million tonnes by 1982-83 from about 7.59 million tonnes produced during 1977-78.

During the six month period from April to September 1978, the ONGC produced nearly 3.93 million tonnes of crude, out of which 2.81 million tonnes was from on shore and 1.12 million tonnes from offshore areas.

As for the onshore areas, apart from continuing its efforts in the eastern and western regions the ONGC proposed to do further exploration in Tripura, West Bengal, U.P., Andhra Pradesh. Punjab foothills, Ganga valley and Krishna Godavari basin. The Minister said that in view of various factors, the crude oil production from Bombay High had been revised recently and this field was now expected to produce 3.4 million tonnes in 1978-79, 4.4 million tonnes in 1979-80, 5.9 million tonnes in 1980-81, 8.2 million tonnes in 1918-82 and 9 million tonnes in 1982-83.

Oil India Limited produced nearly 1.515 million tonnes of crude in the seven month period from April to October in 1978. The total productin of crude oil in the country in 1977-78 was 10.76 million tonnes.

Stepping Up Power Generation

A target of 3857 MW of additional generating capacity has been fixed for 1978-79, which is double the last year's addition of 1956.5 MW. Additional capacity of 932 MW has already been achieved during the previous year-hydro electric power accounts for 492 MW and thermal 440 MW.

The foundation stone of Ramagundam super-thermal power Station (Andhra Pradesh) was laid recently. The power station will have a capacity of 1100 MW in the first phase. It will have three units of 200 MW each and one unit of 500 MW. The ultimate capacity of the station would be 2100 MW. The first 200 MW unit is expected to be commissioned in 1982-83 and subsequent 200 MW units will be commissioned at an interval of six months each thereafter. The 500 MW unit is likely to be completed in 1984-85.

Ramagundam super-thermal power station is the third in the series of thermal stations being set up by National Thermal Power Corporation. The other two projects which are at different stages of implementation are Singrauli Super-thermal power station (U.P.) having an ultimate capacity of 2000 MW for northern region and Korba super thermal power station (Madhya Pradesh) with an ultimate capacity of 2100 MW for western region.

Another super-thermal power station with a capacity of 1100 MW has been planned to be set up at Farakka. The Central Electricity Authority has already accorded techno-economic approval for this project which is likely to cost Rs. 4100 million. The project will be completed by 1984-85.

Government has also approved the setting up of a super-thermal power station at Neyveli in Tamilnadu with an ultimate capacity of 1260 MW. This project wiil be implemented by the Neyveli Lignite Corporation, a public undertaking under the Department of Coal. This station will benefit southern region.

Government policy in respect of thermal power development is to exploit pit-head coal resources through large thermal complexes and transmit the power to load centres. The Government is following a policy of augumenting the efforts of the State Governments in the development of pit-head thermal stations in the Central sector for regional benefits.

The National Thermal Power Corporation (NTPC) was set up in 1975 with the main objectives of development of thermal power in all aspects including planning, investigation, construction operations and maintenance of thermal power stations alongwith the associated transmission lines. The Corporation has been entrusted with the task of setting up large-sized thermal power stations at coal pit-heads to meet the growing power needs of the country.

Expansion Programme of Coal Mines

With a view to meeting the increasing demand of coal, Government of India has approved a sum of Rs. 1085.70 million for expansion programm four coal mines. These are Jayant and K.D. Hesalong mine of Cer Coalfields, North Amlabad coal and Pootkee South Loyabed-Bull Bhagabad coal mines of Bharat Co Coalfields Limited. Whereas Jay K:D. Hesalong and North Amla coal mines will be expanded to h additional capacity of 4.62 mil tonnes a year, Pootkee South Loya and Bulliary, Bhagaband will be wor single unit with a production pro mme of 3.80 million tonnes per annu

The demand of coal for power and ot industries from Singauli coalfiel 13.14 million tonnes in 1982-83 a 16.50 million tonnes in 1987-88. T availability from the existing mines a those under construction in this a will, however, be 7.25 million tonn With a view to reducing the g Central Coalfields Limited is taki up expansion programme of Jaya mine from 3.05 to 6.0 million ton per annum. The proposal for the me anised mine to be operated by the of dragline and shovel dumper co bination, at a cost of Rs. 773.7 milli has been approved by Government.

Another proposal approved by Gover ment is the expansion programm of K.D. Hesalong from the prese level of 0.40 million tonnes to 1. million tonnes per annum at a cost Rs. 144.3 million. This project being taken up so as to improve t availability of coal for supply to pow stations linked to Karanpura coalfie of Central Coalifields Limited. Th too is an openecast project to be ope ated by shovel dumper combination.

Considering the demand of prime co ing coal and its availability from exis ing projects and those in hand, the may be a shortfall of about three millio

tonnes in 1982-83 and this will increase in the subsequent years. It has been proposed by Bharat Coking Coal Limited to work the two collieries, namely, Pootkee South Loyaband and Bulliary Bhagaband as a single producing unit with a production programme of 3.80 million tonnes per annum. While certain technical issues are being resolved it has been decided to take advance action at a cost of Rs. 125 million for certain activities which lie in the critical path. These include deepening of pits, sinking and equipping of new shafts.

Another project being taken up by BCCL is North Amlabad with an expansion programme from its present level of 0.15 million tonnes to 0.72 million tonnes per annum. Here too, the advance action proposal at a cost of Rs. 42.70 million to equip the pits with necessary facilities to cope with the requirement of additional output has been sanctioned by Government.

Areas of Foreign Investment and Collaboration Defined

In para 25 of the Statement on Industrial Policy laid down before the Parliament by the Minister of Industry on December 23, 1977, it was stated that to guide entrepreneurs, Government will issue a revised illustrative list of industries where no foreign collaboration, financial or technical is considered necessary since indigenous technology has fully developed in this field.

Accordingly, such a list has been prepared for the guidance of the entrepreneurs (list given below). This list will replace the lists of industries, issued by Government in 1969, viz., (a) list of industries where foreign investment may be permitted; (b) list of industries where only foreign technical collaboration may be permitted (but not foreign investment); and (c) the list of industries where no foreign collaboration (financial or technical) is considered necessary.

It is clarified that the list of industries, given below, is only illustrative. A broad technology base has already been established in the country. But, with constant technological advancements taking place in the developed countries, the need to update India's production technology would arise in almost all industries over a period of time. The Administrative Ministries/Foreign Investment Board may therefore consider import of technology even in these fields if——

(i) indigenous technology for items in the list developed/exported is too closely held and is not available for use by new entrepreneurs on competitive terms;

(ii) technology is required for updating of existing technology in India to meet efficiently demestic requirements or to become competitive in the export market;

(iii) such import is required for manufacture of items with substantial exports backed by buy-back guarantees.

In order to streamline and further expedite the procedures for securing approvals relating to foreign collaboration proposals, Government have decided to delegate additional powers to the Administrative Ministries to accord approvals for foreign collaboration proposals subject to the following conditions:

(1) There is no foreign equity participation in the proposal.

(2) The applicant is not a company with existing foreign equity investment.

(3) The item proposed to be manufactured is consistent with the priorities set out in the Industrial Policy Statement.

(4) The foreign exchange outgo in case on lumpsum, if any, and royalty together should not exceed Rs. 5 million in the aggregate.

Secretariat of Industrial Approvals (SIA) will continue to provide the centralised secretariat for all foreign investment and/or collaboration approvals. Therefore, all applications for foreign investment and/or collaboration (will continue to be made to the Secretariat) of Industrial Approvals in the Department of Industrial Development, Ministry of Industry, Udyog Bhavan, New Delhi, as hitherto.

The following is the illustrative list, and not exhaustive, of industries where no foreign collaboration, financial or technical, is considered necessary :

Metallurgical industries: ferrous-ordinary castings, bright bars, structurals, welded CI steel pipes and tubes; and non-ferrous—antimony, sodium metal, electrical resistance heating (nickel free alloy), aluminium litho plates.

Electrical euqipment : electrical fans, common domestic appliances, common types of winding wires and strips, iron clad switches, AC motors, cables and distribution transformers.

Electronic components and equipment : general purpose transistors and diodes, paper, mica and variable capacitors, TV receivers, tape recorders, teleprinters, P.A. systems, record players/changers.

Scientific and industrial instruments: non-specialised types of valves, meters, weighing machinery and mathematical surveying and drawing instruments.

Transportation : railway wagons, biccles.

Industrial machinery : Building and constructional machinery, oil mill machinery, conventional rice mill machinery, sugar machinery, tea processing machinery, general purpose machinery.

Machine tools : forged hand tools, general purpose machine tools.

Agricultural machinery : tractor-drawn implements, power tillers, food-grain dryers, agricultural implements.

Miscellaneous mechanical engineering industries.

Commercial, office and household equipments of common use.

Medical and surgical appliances.

Fertilizers: single superphosphate and granulated fertilizers.

Chemicals (Other than fertlizers) : acetic acid; acetanilide, ethyl chloride, viscose filament yarn/staple fibre, melathion technical, sulphate of alumina, potassium chlorate, fatty acid and glycerine, butyl titenate, warferin, silica gel, lindane, endosulfan, phanthoate, nitrofen, ethyl, ether, plastipeel Dyestuffs : benzidine, o-toludine, carbozole dioxazine violet pigment, cadmium sulphide orange.

Drugs and pharmaceuticals : caffeine (natural), phenyl butazone, tol butamide, para acctamel, phanacetin, senna extract, diasogenin, clofibrate, 4-hydroxy cumarin, xenthopotoxin, calcium gluconate, choline chloride, glyceryl gualacolate, phenylethyl biguanide hydrochloride, scopolaminc hydro-bromide, niacinamide, orthololyl bignanide, colochicine, diazopam, sorbitol from doxtrose monohydrate, berberine hydrochloride, balladonna, acriflavine, calcium hypophosphite, chlordiazepoxide.

Paper and pulp Including paper products.

Consumer goods.

Vegetable oils and vanaspati.

Rubber industries : viscose tyre yarn, metal bonded rubber, latex foam, rubberised fabrics, bicycle tyres and tubes.

Leather, leather goods and pickers: belting-leather, cotton and hair finished leather, pickers, picking bands, vegetable tanning extracts, fat liquors other than synthetic.

Glass and ceramics

Cement and gypsum products.

Countervailing Duty on Zinc Ash Reduced

The Government of India has decided to reduce the customs countervailing duty on zinc ash to the level of Rs. 1250 per tonne to make it available to the indigenous industry at reasonable prices. The decision has been taken in view of the shortage of zinc ash in the country and its high prices abroad. The new rates of this duty took effect from December 22, 1978.

The question of reducing the countervailing duty of customs on this commodity was under consideration of Government for some time. Zinc a is used in the manufacture of mic nutrients for crops.

Concessional Customs Duty Extended

The Government has decided to exter the concessional rate of customs du of 25 percent ad valorem to eight in truments/equipments imported for tes ing purposes in the automative industr This has been done for bringing dow the capital costs. The concessional ra came into effect from December 2 1978.

The details for the instruments/equip ments are exhaust emission measurin equipment, engine analyser, brak performance tester, fifth wheels, nois and vibration measuring and analysin equipment, vertical unbalanced type testing machine for wheels, fatigue test rigs for pistons and gudgeon pins and brake sequel test rigs.

Guidelines on Debt-Equity Ratio

Guidelines have been issued to financial institutions on debt-equity ratio for investments by large houses. In these guidelines, financial institutions have been instructed to maximise the level of contribution by promoters, in determining the financial pattern of new or expansion projects promoted by large houses. It has also been indicated in these guidelines that debt-equity ratio in respect of new and expansion projects promoted by large houses should be less favourable than for projects promoted by other entrepreneurs, except in capital-intensive industries requiring large investments. While for projects with investment of more than Rs. 100 million, the normal debt-equity ratio of 2 : 1 or more will

y, in other cases, debt-equity ratio be in the range of 1 : 1 and 1.5 : 1 espect of projects costing below 50 million, and between 1.5 : 1 2 : 1 for projects costing Rs. 50 ion to Rs. 100 million. The lower t-equity ratios in respect of projects moted by large houses will not, ever, apply to shipping industry luding trawlers) and to export-nted projects with expert obligation 51 percent or more.

Industrial Policy Statement issued Government on Feberuary, 2, 1973 norcates the areas of activities where ge houses will be eligible to partici-e. The industries listed for this pose are contained in Appendix I that Statement. In order that non-RTP companies are en-couraged enter the fields specified Appendix I, instructions have been ed by Government to financial titutions that promoters' contribu-n in their case should be reduced m 20 percent to 10 percent for the t Rs. 250 million of the project. r the amount above Rs. 250 million, moters' contribution in respect non-MRTP companies will be at r with the MRTP companies.

cience and Technology

eveloping Wind Power echnology

ie National Aeronautical Laboratory, ngalore (NAL) has been associated th the wind energy right from the liest organised effort in its utilisation India. The capability developed ermittently over the past decade or has led to following developments the laboratory.

ie Windmill WP-II : During the ars 1960-64, a wind mill for water pumping was developed and field tested. The windmill developed is of a simple robust construction requiring very little maintenance. It operates without manual attendance and furls itself in high wind speeds. It responds to wind speeds as low as 8 kmph and ensures a satisfactory operation at most of the places in India. This windmill is well suited for assisting in drinking water supply schemes envisaged for villages. The costs on single unit order basis are estimated to be of the order of Rs. 15,000.

The laboratory so far has instaled more than 60 of these windmills at several locations in the country. One such windmill had been installed for lifting water from a well at Nanekondur village in Karimnagar district of Andhra Pradesh. This is the only well in the village which supplies uncontaminated drinking water through tape using free energy of the wind. There are plans to put more windmills in the Karimnagar district.

From 1964 till about 1974, activities in the field of wind, power at NAL and probably in the entire country remained in hybernation. Due to oil price hike and environmental pollution resulting from the use of fossil fuels, interest has been renewed in alternative sources of energy all over the world. This prompted NAL to revive its wind power programme during 1974, resulting in the following developments.

Vertical Axis Windmill : The experimental work done at the National Research Council, Canada, between 1971 and 1975, has shown that the vertical axis windmill of egg-bearer shape has come attractive advantages. Such windmills are mechanically simple, have reasonably high aerodynamic efficiencies and are insensitive to wind direction. Subsequently a programme was started at NAL to study and develop these windmills.

With this in view, a 5-metre high darrius rotor was designed and fabricated for experimental evaluation. This rotor was designed to generate power equivalent to 1 kw in regions with moderately high mean wind speed of 25 kmph. Expecting the usual problem of non-availability of starting torque, savonius starter buckets were used to aid the main windmaill in starting. The experimental investigations have shown that these windmills are not well suited for direct water pumping as the starting torque problems continue to bother windmill designers. No doubt, these windmills are surely attractive for generating electricity.

Low Power Wind Electric Generator: The laboratory has designed and developed a wind electric generator power source to serve as an alternate source of electricity to dry cells, which are essential in operating isolated electronic system. Its applications are for use in communication repeater stations, navigation buoys in seaways, aviation lighting equipment on isolated physical features. The essential feature of this device is that as and when the wind energy is available, it charges a long life battery from which the energy can be drawn to work when wanted, when there is wind or no wind.

The wind generator has been designed with emphasis on least maintenance and has the following features: the blades are made of aluminium alloy and resists corrosion; the head assembly is totally enclosed and the steel parts are painted with over baked epoxy paint; the electric generator is coupled so that slip rings and brushes are avoided. The device is capable of producing better than 20 to 30 volt

ampere hours of energy and is economically viable as an alternate to drycell usage.

10-M Sail Windmill : The windmill WP-II is somewhat expensive though it has got a life of about 25-30 years. Further, for the purpose of irrigation, its capacity is somewhat limited. In order to reduce the cost and to increase the capacity, 10-metre diameter sail windmill is currently being developed at NAL. This wind mill comprises six triangular sails mounted on tubular spars each of 5 metres length. The shaft rotation is transmitted at rightangle through the axis of the tower for energising a swinging vane rotary pump. The main advantage accruing from such a pump is due to its better matching with the characteristic of the rotor especially during the start-up. The torque requirement for such a pump is fairly low at the start and this is bound to help in lowering down the cut- in wind speed and at the same time operates with lesser solidity than those of conventional multi-vane windmills coupled with reciprocating pumps. This windmill has been evolved to extract energy for pumping 150 litres/minute over a head of 7 metres in wind speeds as low as 6-8 kmph.

The windmill is made mainly from bought-out items from local hardware market. It is hoped that by some modifications in the design of head mechanisms, it should be possible to fabricated this windmill within Rs. 10,000. Studies show that even at this price, in some parts of the country such as Rajasthan and Gujarat, they can be quite competitive to other forms of energy when the total cost including the laying of power lines or the cost of fuel etc. are considered. Presently, this wind mill is undergoing some preliminary tests and trials to assess its performance and economics.

Encouraged with the preliminary performance data of the sail windmill, it is proposed to take up another design cycle to further reduce the cost of components and at the same time develop a range of rotary pumps to suit various heads and output requirements. The development of this windmill would not be complete until it has been tested out in the field for irrgation by means of actual experiments.

NAL is proposing to interacting with other agencies working at village levels such as the Centre for Science for Villages in establishing a number of these windmills for water pumping purposes.

While these are the programmes on high priority, a few other projects on development of windmills for salt water pumping, generating electricity in small quantities would also be taken up.

There is another pressing need for developing windmills for use on deep wells (water table as deep as 150 metres) to assist in rural drinking water supply in desert areas. The size of windmills would have to be much larger than the windmills developed in the country so far.

Trends and Progress of Banking in India

Future development of banking both in terms of structure and in terms of development of credit will have to be guided by the consideration of attaining the two objectives as set in the draft Five-Year Plan (1978-83), namely, increasing the share of credit from the public credit system to sectors which generate maximum employment and which have a significant impact on the standard of living of the like agriculture and allied and village, cottage and small i and increasing the share of s mers and small industrial en in the total credit of the publ system. This has been empha the Reserve Bank in the Repor Trend and Progress of Ban India, 1977-78. Increasing a it is pointed out, will have to b to the kind of shape that the infrastructure-which would incl co-operative sector, regional rur and commercial banks-will h take if it is to support the di pattern of development envisa the Plan. Of course, it is assum other economic policies would an appropriate environment in banking institutions could fu more effectively.

Referring to the various recom ations of special committees/w groups which have made detailed s of the different aspects of bankir regional rural banks and public banks the Reserve Bank observe broadlyon the basis of these recom ations the banking infrastructur have to be so developed in future it will subserve the broader obj of supporting the develop programme.

The review of the trend and pro of banking during the year ended 1978 highlights three notable aspe banking development: a major t in rural branch expansion, a down shift of the structure of interest and the widening of the area of cessional lending to what can be b described as the small-scale secto

The number of new bank bran opened in 1977-78 (July-June) 3222, against 3596 offices opene the previous year. But 70.5 percen

ne new branches were opened in ural areas, as against only 51.3 percent the previous year. Taking the three ears 1975-76 to 1977-78 together, over ne-half (53.3 percent) of the new bran-hes opened were in the rural areas. Thus the pace of branch expansion in nore recent years has made consider-ble progress in penetrating into the ural areas.

Besically, the abolition by the Govern-nent of India of the tax on interest ncome of banks required that the bene-it of this relief to banks was passed on o borrowers. While this provided the opportunity, the phase of relative stabi-ity in prices may be siad to have pro-vided the environment to reduce lend-ng rates. Thus, a reduction in the lend-ng rates of banks was brought about on March 1, 1978. The underlying approach was that sizeable reduction hould take place in the upper ranges of interest rates, while reduction in the ower ranges could be relatively less. Along with lenging rates, there was a realignment of commercial banks' de-posit rates also. Similar adjustments were also made in the interest rates stru-cture of the co-operative sector.

In order to stimulate capital investment in the small-scale sector in general, banks were asked to charge a rate of interest not exceeding 11 percent on term loans with maturity of not less than three years to certian specified small-scale units. Similarly, for promoting invest-ment in the agricultural sector, banks were requird to charge a rate of interest not exceeding 10.5 percent on term loans with maturity of three years or more given to farmers for the purpose of minor irrigation and land develop-ment; and further, a rate not exceeding 11 percent on similar term loans to farmers for what are called diversified purposes-that is, dairy farming, poul-try, etc. In this context an innovative scheme was the establishdent of a "Small Farmers Window" in the Re-serve Bank with a view to providing an incentive to banks to increase their lend-ing to small farmers. This window re-lates to refinance facilities available with the Reserve Bank at Bank Rate for loans to small farmers for amounts not exceeding Rs. 2,500 extended as short, medium or long-term credit. Taken to-gether, these new measures, which came into operation since January 1978, are designed to enable banks to channel sizeably larger credit to the small sector at concessional rates.

As compared with an increase of 24.5 percent recorded in 1976-77 (July-June), deposits in 1977-78 grew at 21.3 per-cent. Also, while demand and time deposits accounted for 31.8 percent and 68.2 percent or incremental deposits, respectively, in 1976-77 the correspond-ing proportions were 46.4 percent and 53.6 percent, respctively, in 1977-78. In so far as deployment of the-banking sectors resources is concerned, gross bank credit rose by 14.6 percent in 1977-78 , as compared to 17.1 percent in the previous year. In part, this was a result of the decline in food procure-ment credit, in sharp contrast to a significant rise witnessed in the previ-ous year. The gorss credit-deposit ratio at 68 percent as at the end of June 1978, was significantly lower than 72 percent a year ago.

Advances to priority sectors showed a significant increase. At the end of June 1978 they consituted 27.5 percent of total bank credit, against 25.8 percent a year ago. There is a wide variation amongst banks in respect of the share of priority sector leanding in total advances. In fact, some banks have even margin-ally exceeded the target already, whereas there are many which have to bridge a considerable gap. However, special efforts will have to be made if the bank-ing sector's target of lending to priority sectors is reach a level of not less than one-third of outstanding credit by March 1979. Similar is the case in res-pect of the target relating to the credit deposit-ratio of at least 60 percent to be achieved by rural and semi-ruban branches by March 1979. At end-December, 1977 , the credit-deposit ratios of rural and semi-urban areas were 55.6 percent and 47.2 percent, respectively.

In the co-operative banking sector, a significant development during the year was the change introduced by the Reserve bank in the interest rates on refinance facilities to co-operatives with the objctive of reducing the cost of credit to the ultimate borrowers. A reference has already been made to this aspect. Measures were also taken to strengthen the cooperative credit structure with a view to reducing re-gional imbalances and ensuring increas-ed flow of credit particularly to the wea-ker sections of the rural population.

The following table shows the growth of banking at a glance : . .

	1976—77	1977—78
No. of offices opened during July-June 1976-77.	3,596	3,222
of which at unbanked centres (July-June)	1,690	2,245
No. of offices function-ing (end-June)	24,802	28,016
Of which rural cen-tres	9,532	11,802
	(Rs. million)	
As on the last Friday of June		
Deposits	189,030	229,320
Advances	134,910	154,880
Of which :		
Priority/neglected sectors	34,860	42,560
Export	10,770	12,040
Public food procure-ment.	25,360	25,250

ampere hours of energy and is economically viable as an alternate to drycell usage.

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the new branches were opened in rural areas, as against only 51.3 percent in the previous year. Taking the three years 1975-76 to 1977-78 together, over one-half (53.3 percent) of the new branches opened were in the rural areas. Thus the pace of branch expansion in more recent years has made considerable progress in penetrating into the rural areas.

Besically, the abolition by the Government of India of the tax on interest income of banks required that the benefit of this relief to banks was passed on to borrowers. While this provided the opportunity, the phase of relative stability in prices may be siad to have provided the environment to reduce lending rates. Thus, a reduction in the lending rates of banks was brought about on March 1, 1978. The underlying approach was that sizeable reduction should take place in the upper ranges of interest rates, while reduction in the lower ranges could be relatively less. Along with lenging rates, there was a realignment of commercial banks' deposit rates also. Similar adjustments were also made in the interest rates structure of the co-operative sector.

In order to stimulate capital investment in the small-scale sector in general, banks were asked to charge a rate of interest not exceeding 11 percent on term loans with maturity of not less than three years to certian specified small-scale units. Similarly, for promoting investment in the agricultural sector, banks were requird to charge a rate of interest not exceeding 10.5 percent on term loans with maturity of three years or more given to farmers for the purpose of minor irrigation and land development; and further, a rate not exceeding 11 percent on similar term loans to farmers for what are called diversified purposes-that is, dairy farming, poultry, etc. In this context an innovative scheme was the establishdent of a "Small Farmers Window" in the Reserve Bank with a view to providing an incentive to banks to increase their lending to small farmers. This window relates to refinance facilities available with the Reserve Bank at Bank Rate for loans to small farmers for amounts not exceeding Rs. 2,500 extended as short, medium or long-term credit. Taken together, these new measures, which came into operation since January 1978, are designed to enable banks to channel sizeably larger credit to the small sector at concessional rates.

As compared with an increase of 24.5 percent recorded in 1976-77 (July-June), deposits in 1977-78 grew at 21.3 percent. Also, while demand and time deposits accounted for 31.8 percent and 68.2 percent or incremental deposits, respectively, in 1976-77 the corresponding proportions were 46.4 percent and 53.6 percent, respctively, in 1977-78. In so far as deployment of the-banking sectors resources is concerned, gross bank credit rose by 14.6 percent in 1977-78 , as compared to 17.1 percent in the previous year. In part, this was a result of the decline in food procurement credit, in sharp contrast to a significant rise witnessed in the previous year. The gorss credit-deposit ratio at 68 percent as at the end of June 1978, was significantly lower than 72 percent a year ago.

Advances to priority sectors showed a significant increase. At the end of June 1978 they consituted 27.5 percent of total bank credit, against 25.8 percent a year ago. There is a wide variation amongst banks in respect of the share of priority sector leanding in total advances. In fact, some banks have even marginally exceeded the target already, whereas there are many which have to bridge a considerable gap. However, special efforts will have to be made if the banking sector's target of lending to priority sectors is reach a level of not less than one-third of outstanding credit by March 1979. Similar is the case in respect of the target relating to the credit deposit-ratio of at least 60 percent to be achieved by rural and semi-ruban branches by March 1979. At end-December, 1977 , the credit-deposit ratios of rural and semi-urban areas were 55.6 percent and 47.2 percent, respectively.

In the co-operative banking sector, a significant development during the year was the change introduced by the Reserve bank in the interest rates on refinance facilities to co-operatives with the objctive of reducing the cost of credit to the ultimate borrowers. A reference has already been made to this aspect. Measures were also taken to strengthen the cooperative credit structure with a view to reducing regional imbalances and ensuring increased flow of credit particularly to the weaker sections of the rural population.

The following table shows the growth of banking at a glance : . .

	1976—77	1977—78
No. of offices opened during July-June 1976-77.	3,596	3,222
of which at unbanked centres (July-June)	1,690	2,245
No. of offices functioning (end-June)	24,802	28,016
Of which rural centres	9,532	11,802
	(Rs. million)	
As on the last Friday of June		
Deposits	189,030	229,320
Advances	134,910	154,880
Of which :		
Priority/neglected sectors	34,860	42,560
Export	10,770	12,040
Public food procurement.	25,360	25,250

ampere hours of energy and is economically viable as an alternate to drycell usage.

10-M Sail Windmill : The windmill WP-II is somewhat expensive though it has got a life of about 25-30 years. Further, for the purpose of irrigation, its capacity is somewhat limited. In order to reduce the cost and to increase the capacity, 10-metre diameter sail windmill is currently being developed at NAL. This wind mill comprises six triangular sails mounted on tubular spars each of 5 metres length. The shaft rotation is transmitted at rightangle through the axis of the tower for energising a swinging vane rotary pump. The main advantage accruing from such a pump is due to its better matching with the characteristic of the rotor especially during the start-up. The torque requirement for such a pump is fairly low at the start and this is bound to help in lowering down the cut- in wind speed and at the same time operates with lesser solidity than those of conventional multi-vane windmills coupled with reciprocating pumps. This windmill has been evolved to extract energy for pumping 150 litres/ minute over a head of 7 metres in wind speeds as low as 6-8 kmph.

The windmill is made mainly from bought-out items from local hardware market. It is hoped that by some modifications in the design of head mechanisms, it should be possible to fabricated this windmill within Rs. 10,000. Studies show that even at this price, in some parts of the country such as Rajasthan and Gujarat, they can be quite competitive to other forms of energy when the total cost including the laying of power lines or the cost of fuel etc. are considered. Presently, this wind mill is undergoing some preliminary tests and trials to assess its performance and economics.

Encouraged with the preliminary performance data of the sail windmill, it is proposed to take up another design cycle to further reduce the cost of components and at the same time develop a range of rotary pumps to suit various heads and output requirements. The development of this windmill would not be complete until it has been tested out in the field for irrgation by means of actual experiments.

NAL is proposing to interacting with other agencies working at village levels such as the Centre for Science for Villages in establishing a number of these windmills for water pumping purposes.

While these are the programmes on high priority, a few other projects on development of windmills for salt water pumping, generating electricity in small quantities would also be taken up.

There is another pressing need for developing windmills for use on deep wells (water table as deep as 150 metres) to assist in rural drinking water supply in desert areas. The size of windmills would have to be much larger than the windmills developed in the country so far.

Trends and Progress of Banking in India

Future development of banking both in terms of structure and in terms of development of credit will have to be guided by the consideration of attaining the two objectives as set in the draft Five-Year Plan (1978-83), namely, increasing the share of credit from the public credit system to sectors which generate maximum employment and which have a significant impact on the standard of living of the poo like agriculture and allied activ and village, cottage and small indus and increasing the share of small mers and small industrial enterp in the total credit of the public cr system. This has been emphasised the Reserve Bank in the Report on Trend and Progress of Banking India, 1977-78. Increasing attent it is pointed out, will have to be gi to the kind of shape that the bank infrastructure-which would include co-operative sector, regional rural ba and commercial banks-will have take if it is to support the disper pattern of development envisaged the Plan. Of course, it is assumed th other economic policies would cre an appropriate environment in whi banking institutions could functi more effectively.

Referring to the various recommen ations of special committees/worki groups which have made detailed studi of the different aspects of banking li regional rural banks and public sect banks the Reserve Bank observes th broadlyon the basis of these recommen ations the banking infrastructure wi have to be so developed in future th it will subserve the broader objectiv of supporting the developmer programme.

The review of the trend and progre of banking during the year ended Jun 1978 highlights three notable aspects o banking development: a major thrus in rural branch expansion, a downwar shift of the structure of interest rate and the widening of the area of con cessional lending to what can be broad described as the small-scale sector.

The number of new bank branche opened in 1977-78 (July-June) wa 3222, against 3596 offices opened in the previous year. But 70.5 percent of

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Regd. No. D(C

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Milan International Fair, Milan (Italy)	April 14-23, 1979
Thessoloniki International Fair, "TEXTILLA"—Thessoloniki (Greece)	April 24-28, 1979
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
Mozambique International Fair, Mozambique	August 1979
Plovdiv International Fair, Plovdiv (Bulgaria).	September 3-10, 1979
Nairobi International Fair, Nairobi (Kenya).	September 1979
Tehran International Fair, Tehran (Iran).	September 1979
Baghdad Interniational Fair, Bahghdad (Iraq.)	October 1979
Cican Annual Trade Fair, "FIISSA" Santago (Chile).	October 25 to November 11, 1979
International Furniture Fair, (MEUBEL FAIR) Brussels (Belgium).	November 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition in Mexico	Dates to be fixed
Indaian Exhibition at Bangkok (Thiland)	Dates to be fixed

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economic and commercial news

News Highlights

Indo-Canada Economic Cooperation
India and Canada have recently agreed at a meeting held in New Delhi to explore the possibilities of setting up a Joint Commission to further promote economic, trade and technical cooperation between the two countries. The discussion between the Union Minister of Commerce, Civil Supplies and Cooperation, Mr. Mohan Dharia and the leader of Canadian delegation Mr. A. C. Abbott also covered areas of mutual collaboration and joint ventures.

MECON Secures Nigerian Assignment
MECON, a public sector undertaking, has bagged a new consultancy assignment in Nigeria for setting up a steel township. The assignment involves a consultancy fee between Rs. 30-40 million for MECON.

Indo-GDR Economic Ties Strengthened
During the recent official visit of the Chairman of the Council of State of GDR, Mr. Erich Honecker to India,

(*Contd. on page* 2)

Export Performance and Potential

New Dimension in Indo-Canada Economic Cooperation

India and Canada have recently agreed to explore the possibilities of setting up a Joint Commission to further economic, trade and technical cooperation between the two countires.

This was decided at a meeting held in New Delhi recently between Mr. Mohan Dhaira, Union Minister for Commerce, Civil Supplies and Cooperation and Mr. A. C. Abbott, Minister of National Revenue and Minister of State for Small Business, Government of Canada.

During the talks, the Union Minister said that there were still vast unexplored areas of cooperation between India and Canada and insisted that the two countries should better the level of their trade. He said that the two countries could also explore areas of collaboration and joint ventures where the industries of the two countries could join hands for mutual benefit of India and Canda.

The visiting Minister said that Canada was impressed with the enormous strides made by India in the economic field and the dynamism its economy had achieved. He agreed with India's Minister that trade could not be one way traffic and appreciated the need for improving the level of imports from India which he fell were not as high as these should be.

Mr. A. C. Abbott was leading a high powered-delegation to India consiting of officials and senior business executives. This was a sequel to the visit of Mr. Arif Beg, Minister of State for Commerce, Civil Supplies and Cooperation, to Canada in October, 1978. The delegation explored marketing apportunities for Canadian experts in India and to investigate

two important agreements for boosting bilateral economic relations were signed. These are long-term agreement on economic, industrial, scientific and technical cooperation as also agreement on cooperation in merchant shipping.

Indian Insurance Business in Kenya

India will shortly enter insurance business in Kenya. The Government of India has approved a joint proposal of the General Insurance Corporation of India (GIC) and the Life Insurance Corporation of India to set up a locally incorporated company in Kenya to undertake both life and men-life insurance business. The proposal tentatively envisages that 55 percent of the equity share capital of the company would be held by the General Insurance Corporation of India and its four sutsidiaries and the life Insurance Corporation of India and the balance of 45 percent by Kenyan interests.

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areas for collaboration for Canadian companies within India and pa pation with Indian firms on projects in third countries.

The volume of Indo-Canadian trade during 1974-75. 1975-76 1976-77 was of the order of Rs. 1746.70 million, Rs. 2743.70 mil and Rs. 1779.80 million respectively. Out of this, India's ex to Canada during these years were only Rs. 440.90 million, Rs. 42 million and Rs. 485.80 million respectively.

Although India's share in the total Canadian imports is hardly one perc there is a lot of seope for further diversification of mutual trade. major items of India's exports are really the traditional ones like cash kernels, tea, coffee, textile/fabrics, jute, coir etc. Major items of imp were wheat, vegetable oils and fats, paper and paper board, oil see fertilizers, nickel alloys, machinery etc.

Promoting Indo-Swedish Technical Cooperation

An agreement on terms and procedures relating to the Indo-Swd Development Cooperation Programme was signed recently in New Del between India and Sweden. Mr. R. N. Malhotra, Additional-Secretar Union Ministry of Finance signed the agreement on behalf of India a Mr. Torsten Orn, Charged' Affairs of Sweden signed for his countr

Under this agreement, the Government of Sweden will continue to giv technical assistance of India for various development sectors. The assi tance provides for the service of experts, supply of equipment and schola ships to the Indian nationals. The agreement will help smooth imple mentation of Sweden-aided projects and the new projects to be taken u in the coming years.

The agreement is an extension of the General Technical Cooperatio Agreement signed in November 1972 which expired on Decem ber 31, 1978. It has come into force on 1st January this year and woul remain valid till June 30, 1983.

The Government of Sweden has given valuable technical assistance i the shape of experts, equipment, commodities and training facilities fo a variety of projects. These include the India population project, the groundwater development project, forestry projects, advanced training institute for electronics and process instrumentation, Hyderabad vocatio nal training programme for women, New Delhi ; consumer cooperatives, export promotion etc.

Sweden is an important trading partner of India among EFTA (European Free Trade Area) countries. The two-way trade has been on the increase. India's exports to Sweden amounted to Rs. 157.6 million in 1974-75, Rs. 132.6 million in 1975-76 and Rs. 259.7 million in 1976-77. India's imports from Sweden totalled Rs. 328 million in 1974-75, Rs. 685 million in 1975-76 and Rs. 357 million in 1976-77.

The major export items are clothing (readymade garments), cotton manu factures, floor coverings and tapestries, metal manufactures, fish and fish preparations, handicrafts, sporting goods, coffee, etc. The imports have been wheat, non-electric machinery, iron and steel, chemical and com pounds, paper, paper board and manufactures thereof, electric machinery etc.

Indo-GDR Eeonomic Relations Fortified

At the invitation of the India's President Mr. Neelam Sanjiva Reddy,

the General Secretary of the Central Committee of the Socialist Unity Party of Germany and Chairman of the Council of State of the German Democratic Republic, Mr. Erich Honecker paid an official visit to India recently.

The official talks between Mr. Morarji Desai and Mr. Honecker were held in an atmosphere of friendship and close understanding. In a Joint Statement they noted with satisfaction broad identity of views on the subjects discussed and reaffirmed their conviction that the friendly relations between the two countries would be further strengthened.

Both were gratified to note that since the establishment of diplomatic relations between the two countries in October 1972, Indo-GDR cooperation had diversified considerably. They viewed the increase in economic and industrial cooperation as reflected in the volume and diversification of trade and were confident that these exchanges would grow rapidly in the coming years.

During the visit, the two sides concluded the following agreements :—

(i) Long-Term Agreement between the Government of the Republic of India and the Government of the German Democratic Republic on economic, industrial, scientific and technical cooperation.

(ii) Agreement between the Government of the Republic of India and the Government of the German Democratic Republic on cooperation in the field of merchant shipping.

The statement further adds that the two eaders appreciated the consistent stand taken by the members of the non-aligned movement on the question of the establishment of equitable and just economic relations between the members of the world community. The two sides believed that in accordance with the declaration and Programme Actions on the establihshment of a New International Economic Order, such relations should be conducted on the basis of respect for national sovereignty, the equality of states and of mutual benefit.

Mr. Erich Honecker, has said the Long-Term Agreement of economic, scientific, industrial and technological cooperation provided new opportunities for extending cooperation between the two countries and exprssed the hope that friendship between GDR and India will benefit the two peoples and serve the interests of world peace.

Earlier at a Banquet in the honour of distinguished guest, the President of India, Mr. N. Sanjiva Reddy, said that the visit had provided a great impetus for the further expansion and development of mutual cooperation. The agreements signed should open up new avenues of economic, industrial, scientific and technical cooperation. The economies of the two countries had a potential which could be developed for mutual benefit as well as for benefit of third countries.

The President of India remarked that for two decades now, the GDR had been one of India's closest partners in her development. From modest beginnings, the trade had passed the level of a thousand million rupees annually. India imports from the GDR chemicals, fertilisers, ships and industrial machinery. There had been cooperaton in the fields of science and technology. Bilateral cooperation had reached a stage where it could and should expand to a higher level. The Joint Commission had recently identified a whole range of new fields.

MECON Bags Nigerian Consultancy Assignment

Metallurgical and Engineering Consultants (India) Limited, (MECON), a public sector undertaking under the Ministry of Steel and Mines, has secured a new consultancy assignment in Nigeria for the establishment of a steel township. MECON had earlier won a contract for rendering consultancy and monitoring services to the Federal Government of Nigeria for the setting up of a one-million tonne capacity direct reduction steel plant at Warri in Nigeria.

The proposed township for the steel plant at Warri, estimated to cost abut 200 million US dollars, approximately (Rs. 1650 million) would consist of 4,500 houses. The assignment involves a consultancy fee ranging from Rs 30 to 40 million for MECON.

In the letter of intent to MECON, the Federal Government has specifically mentioned the high standard of work and dedication shown by the Indian engineers working on the Nigerian steel project. The assignment of the township has, therefore, been given to MECON on the basis of the commendable work done by this Indian organisation on the steel plant in Nigeria.

Brisk Business of Indian Films at 7 IFFI

A significant highlight of the 7th International Film Festival of India (IFFI) has been the brisk business at the film market.

India and Iraq have signed recently an agreement whereby the latter agreed to purchase thirtytwo Indian films. The agreement was signed by Mr. R.K. Shastri, Chairman Indian Motion Pictures Export Corporation (IMPEC) on behalf of India and by Mr. Azwaai, Head of State Agency of Iraq for Films on behalf of his country.

One of the important aspects of the agreement is that Iraq has purchased one Kannada film titled Kalla Kulla. Among other films purchased by Iraq include Ram Kasam, Trishna, Shalimar, Muquddar and Sajan Bin Suhagan.

The value of the purchases by Iraq of Indian films under this agreement is estimated to be about Rs. 2 million.

The Czech TV has selected six films titled Chess Player, Parsuram Mrig Trishna, Bhumika and Kannada film Harake, Deepa and Kokila for screening at their net work. They have also recommended for purchase for commercial theatres Indian films titled Janoon and Cinema. They have also shown interest in old Indian movie for which negotiations are being conducted and will be followed up in due course.

Film Finance Corporation have purchased three films from Filmpolski and Poland has agreed to send a team for selecting ten Indian films for purchase.

Algeria has elected one Kannada film titled A Story Teller for commercial screening and two pictures titled Ghatshra-Dha and Grahana for TV.

A Private concern has negotiated with Turkey for sale of cine equipment like sound negatives, X-ray films and photographic material and expects an order of nearly Rs. 2.5 million per year.

A symposium on Cinema in Developing countries was also held on the occasion of the International Film Festival. The Symposium recommended that a new exhibition network should be created with the building of low-cost theatres through governmental, non-governmental and cooperative initiative to provide greater access to the non-commercial film for the rural and semi-urban people.

The Symposium has suggested that there should be an immediate expansion of the field publicity directorate so that every disrict has one unit at least that could screen not merely government publicity films but also feature films of merit.

Other recommendations of the Seminar are as follows :

(i) There should be a separate section devoted to the Third World Ciema at future Indian International Film Festivals.

(ii) Attempts should be made by governmental and quasi-governmental institutions to acquire films from the Third World Countries and enable them to be shown as widely as possible throgh all available outlets.

(iii) There should be greater association of persons from the film profession in the administration of all the governmental film institutions with less bureaucratisation.

(iv) Further avenues are to be explored for utilising the 16mm and 8mm technology in production and exhibition films.

Indo-Italian Economic Ti

Italy is a significant trading part of India in the European Econo Community. The trade exchar between the two countries h witnessed significant hike dur recent years. India's exports Italy were valued at Rs. 524 mill in 1974-75, Rs. 798 million 1975-76 and Rs. 1190 million 1976-77 India's imports fr Italy amounted to Rs. 784 milli Rs. 848 million and Rs. 574 mill during 1974-75, 1975-76 and 1976- respectively.

There is great potential for bilate trade flows as Italian exports India and the Italian imports fr India constitute only very sm proportion of overall Italian forei trade.

The Indo-Italian Joint Committ for economic collaboration is nc effectively working to fill this ga The first two meetings held in Ron and Delhi in 1976 and 1977 ha already identified a number of are where new collaborations and e changes seem more promising, f instance, engineering goods, chemic plants, automobile ancillaries, irc ore pelletization, citric acid an furfural gas with sugar bagass rayon grade pulp from jute stick an marine prodcts.

The best known symbles of Indc Italian collaboration are Fiat Lambretta and Vespas and three wheelers. During the last two decade about 125 proposals for Indo-Italia collaboration were approved b Government of India and they cove a wide range of manufactures There is considerable potential i

the area of electronics, leather processing machinery, automobile components and machine tools. The major projects approved relate to synthetic fibres and yarns, dyestuffs and inter-mediates, chemicals phar maceuticals, explosives, fuses and detonators, fertiliser plants, chemical plants, machine tools, printing machines, pumps and compressors, gas cylinders, conveyor beltings with steel cords, automobile tyres and tubes, automobile parts ad accessories, mobile cranes, diesel engines, abrasives, readymade garments, marine navigation, radar equipment, sound projectors, wire drawing machines, powerline protective relay equipment, forklift trucks, etc.

There has also been technical cooperation between the two countries. One field in which Italian technology is involved is India's fertilizer industry. Automobile and public transportation industry is another field where possibility exists.

India has proposed for joint ventures in third countries as it would be useful to combine Italy's sophisticated technology in certain lines and India's advatages in construction work, engineering and designing for such joint ventures.

Another area of cooperation has been financial. Italy has been extending credit facilities to India (Italy being member of Aid India Consortium) since 1962-63 in the form of Italian suppliers credit to finance the import of capital equipment, services and commodities.

Indo-BLEU Trade Trends

According to a monthly report on economic and commercial conditions issued by to Embassy of India, Brussels, India's exports to Belgium/Luxembourg during the first eight months of 1978 rose by BF 1752.6 million or 38 percent over the corresponding period of 1977. The increase was mainly due to larger supplies of precious stones (+BF 1816 million), bed linen, sacks and other textiles medeups, except clothing (BF 35.5 million), floor coverings (+BF 27.6 million), vegetable raw material including opium (+BF 27.1 million), vegetables (BF+25 million), fixed vegetable oils (BF 9 million), minerals (BF 7.5 million) and chemicals (+BF 6 million). Smaller increases were also witnessed in works of glass, spices, confidential traffic, travel goods, tools, frozen shrimps, non-ferrous metal waste, footwear, auto parts, tea, leather, embroideries, sports goods, fruits and nuts, froglegs and slate, stones and gravel.

On the other hand, a sharp decline was noticed in India's exports of crushed bones (—BF 71.2 million), oilcakes (—BF 37.9 million), jute fabrics (—BF 28.3 million), coffee (—BF 27.6 million), machines (—BF 14.8 million), aluminium (—BF 11 million), clothing (—BF 10 million), tobacco (—BF 9.2 million), electrical apparatus (—BF 6 million), oilseeds (—BF 5.7 million), textile yarns (—BF 5 million), cotton textile fabrics (—BF 4.6 million) and mica (—BF 3.6 million). Other losses were witnessed in leather manufactures, articles of minerals, zoological specimens, dyestuffs and bicycle parts.

India's imports from BLEU rose by BF 2489.3 million or 43 percent during January-August 1978 as compared with 1977. The major increase were recorded in precious stones (+BF 2496.2 million). Other items showing sharp upward trends were milk powder (+BF 403.8 million), iron and steel products (+BF 67.6 million), photographic material (+BF 44.5 million), organic chemicals (+BF 32.9 million), inorganic chemicals (+BF 13.1 million), vegetable oils (+BF 10 million) and plastics (+BF 9 million). The imports which showed a downward trend were butter/butter oil (—BF 316.5 million), machinery (—BF 119 million) and confidential traffic (+BF 62.3 million).

During January-August 1978, India had an adverse balance of trade with BLEU worth BF 1911.7 million compared with an unfavourable balance of BF 1175 million the year before.

Canalising Export of Groundnut Extractions

Government has decided to canalise the groundnut extractions through State Trading Corporation of India (STC) from 1979. Presently the exports are canalised through an Association of the Exporters called Groundnut Extractions Export Development Association (GEEDA) which allots the quota to the various exporters.

It is clarified that export of groundnut extractions would continue to be made by extractions units and cooperative units and heretofore with the change that STC would be discharging the functions which at present were being done by GEEDA. The present order of canalisation does not envisage the take-over of all the export trade from the present exporters to STC alone. STC would be regulating the trade of

groundnut extractiions but would not be supplanting the present exporters.

Contribution of Small Industries to Exports

Exports from India's small scale industries have consistently shown not able increase in the recent years. They nearly doubled from Rs. 1540 million in 1971-72 to Rs. 3057.9 in 1972-73 and further moved up to Rs. 3931.6 million in 1973-74. They shot upto Rs. 5407.1 million in 1974-75 and further advanced to Rs. 6284.8 million in 1975-76 and hit the mark of Rs. 8782.3 million in 1976-77.

Their share in India's over-all exports have been steadly moving up from 15.5 percent in 1972-73 to 16.4 percent in 1974-75 and to 17.1 percent in1976-77. The Contribution of the small scale sector is expected to go up to 20 percent by the end of sixth five year period.

The products which account for the bulk of the exports from small scale industries include engineering goods, leather and leather products, tanned hides and skins, ready-made garments, woollen hosiery, marine products and processed foods. During 1976-77 small scale industries contributed as much as 58 percent of the exports of marine products, 90 percent of woollen hosiery, 74 percent of agarbatties, 80 percent of finished leather and manufactures, 52 percent of plastic products, 92 percent of cashew kernels and 20 percent of engineering goods registered with the Councils. Besides, significant exports are made in the from of parts and components of items assembled and exported by large scale exporters. Small industries are now exporting simple mass consumption items like garments and footwear to most sophisticated and technology intensive items like scientific instruments, electrical applicances, tape-recorders. It is significant to note that in the field of non-tradition items, the small scale sector is forging ahead such as desk calaculators, and host of electronics, parts and components.

Products from small industry having exports potential are as follows: diesel engines-upto 10 h.p. both vertical and horizontal, pump sets, sugarcane crushers, espresso coffee machines, general purposemachine tools hand and power operated duplicators, textile machinery parts and accessories, agricultural implements including tools, hosiery knitting machines, steel conduits, grey iron castings including manhole covers and pipes, hand tools, ferrous hollow ware and hardware, fire extinguishers, stainlesses steel cutlery, bicycles and bicycle parts, surgical instruments and equipment, scientific instruments, clocks, timepieces and parts, stay wire for telegraph posts, electrical transmission hardware, steel wire products steel forgings, electric motors, switch-gear, D.T. insulators, domestic electrical applicances, furbaces, electrical light fittings & wiring accessories, electrical measuring instruments, radio receivers, public address equipment and components, storage batteries and components, plastic mouldings and extrusions, vegetable and fruit preserves-canned or otherwise, paper conversions such as incecream cups, drinking cups, tumblers etc., rubber mouldings, agarbatties and dhoop, bifocal blanks, and leaves microscope slides, etc, toys of all description, fastners, pencils and ball point pens including wooden-slates, lead slips., spetacle frames, costume jewellery including glass beads, hosiery and knitwear, gas mantiles, readymade garments umbrella, umbrella handles, sticks and frames, stationery, greetings cards, invitation card leathert & leather products, automobile ancillaries.

In order to promote and maximi port earnings, a network of instu covering major export comm and different regions of the countr been created. These include: (i)E Promotion Councils and other co dity organisations, (ii) Service or ations like Indian Institute of Fo Trade, Trade Development Auth Federation of Indian Exporters Or ation (FIEO). Small Industrires I lopment Corporation, Export Ins ion Council, Freight Investig Bearu, Directorate of Drawback, (iii) Trading cum-Service organisa like State Trading Corporation, N ional Small Industries Corpor State Small Industries and Export porations, (iv) Export houses in pri sector and associations like Federa of Association of Small Industrie India (FASII) and all India Ma facturers Organisation (AIMO) also encouraged by the Governmen develop and promote exports of sm scale industries.

Upswing in Exports of Handloom Goods

According to the provisional figu exports of handloom goods during first half of the current financial y (April-September, 1978) aggregated Rs. 1,239.8 million. Exports for t corresponding period of last year w Rs. 1,032.8 million. The current yea export performance so far, thus refle ted an increase of about 20 perce over the performance of the l year for the same period.

The export target for the current fina cial year has been fixed high at Rs. 2740 million as against R 3370 million for the preceding yea The higher export performance duri April -September, 1978 is thus in co sonance with the higher export targ

fixed for the current financial year. The percentage achievement with respect to the target of Rs. 2740 million comes to about 45 percent for the first six months of the current year as compared to the achievement of about 43 percent during the same period of last with respect to its target of Rs. 2370 million.

Category-wise , the exports of cotton handloom goods rose to Rs. 1047.20 million from Rs. 883.20 million and silk handloom items to Rs. 192.30 million from Rs. 149.60 million during the comparable periods.

Exports of handloom goods during 1977-78 were characterised by the phenomnal increase in the exports of real Madras handkerchiefs and the steep fall in the exports of readymade garments as a result of restraint measures adopted by the importing countries.

While the aggregate export performance during the first six months of the current financial year yields about 45 percent acheivement with respect to the overall target, the relative export performance in the case of readymade garments and natural silk goods, showed better achievement at 48 percent with respect to their individual targets. The achievement in respect of cotton fabrics and made—ups is, however, lower at 40 percent each as compared to the overall achievement of 45 percent.

Exports of other fabric items for April-September, 1978 period were higher by Rs. 15.2 million at Rs. 90.6 million as compared to exports of Rs. 75.4 million during the corresponding period of last year. The estimated export value of this item during 1977-78 was Rs. 283.8 million. With the increasing trend in the exports of this item noticed during the current year, it is expected that exports of this item would reach the target of Rs. 240 million.

Exports of lunghies and sarongs totalled Rs. 43.1 million for the first six months of the current financial year thus yielding near about 50 percent achievement with respect to its target of Rs. 90 million. The target is therefore likely to be achieved.

However, in respect of real Madras handkerchiefs, the export performance at Rs. 97.6 million during April-September,1978 period lags behind the performance of its target (Rs. 250 million) for the year 1978-79. A revival of the normal trade in the export of this item can be expected when the existing ban on the import of this item is lifted by Nigeria, the major importing country for this exclusive export variety.

In respect of cotton handloom made-ups the export achievement for the first half year with respect to target has been 40 percent. The aggregate exports under this category for April-September, 1978 period were higher at Rs. 96.7 million against Rs. 90.4 million during April-September 1977. Exports of cotton made-ups for 1977-78 totalled Rs. 293.0 million and if the same higher trend is maintained during the remaining second half of the current financial year, the total exports for the current year may exceed the preceding performance of Rs. 290 million, not to speak of the target of Rs. 240 million.

Exports of readymade garments, which were in jeopardy during 1977-78 as a result of the unilateral action of the quota regulating countries, showed revival during the current year and exports have aggregated to Rs. 719.1 million during April-September, 1978 period as against Rs.427.6 million during April-September, 1977. While exports of readymade garments received some setback with the recent shut-out of exports of USA, it is expected that exports would get fresh impetus from the beginning of the new year and the export target of Rs. 1500 million for the current year would be achieved.

The share of silk exports in the aggregate exports of handloom goods has been on the increase and rose from 8.5 percent in 1976-77 to 13.1 percent in 1977-78 and 15.5 percent during the first half of 1978-79. Silk exports aggregated to Rs. 192.3 million for April-September, 1978 period which was higher by Rs. 42.7 million over its performance during the corresponding period of last year, thus reflecting an increase of 31 percent in value. As silk exports achieved already 48 percent of the target, it is expected that the export target of Rs. 400 million for the 1978-79 is as good as achieved.

With the increasing tend in the exports of cotton handloom made-ups, readymade garments, natural silk goods and cotton fabric items except real Madras handkerchiefs, as evidenced during the first half of the current financial year, the export target of Rs 2740 million for the current year revealed to be an easy proposition for handloom exports.

Chemicals and Pharmaceuticals Exports

According to a report of Basic Chemicals, Pharmaceuticals and Cosmetics Export Promotion Council, the estimated exports for the period April-November, 1978 have been to the tune of Rs. 938.4 million during the period April-November 1978 as compared to Rs. 937.4 million in the corresponding period of the provious year. It may be mentioned that the figures for the

period as complied from the customs do not incude exports effected from land routes, air as well as minor ports. When figures from the above surces become available, it is hoped that the exports would be much more than the estimates.

The Council has envisaged a target of Rs. 2000 million and the pre-rata target for the period April-November, 1978 comes to Rs. 1333.3 million. Reasons for the declining trend in exports during the current year have been mainly attributed to global recession, restraints on imports by the developed countries, stiff competition from countries like Taiwan, Japan, Hong Kong, Brazil and Spain, fall in the exchange value of US dollars, inadequate sailings to certain destinations etc.

Despite all the above constraints, exports of some of the panels like drugs and pharmaceuticals and agarbattis have faired well. As per the indication, export prospects of chemical items in general are promising.

Panelwise, the export od drugs, pharmaceuticals and fine chemicals moved up from Rs. 311 million to over Rs. 419 million during the first eight months of the current financial year 1978-79 thereby registering a hike of 33 percent. Likewise agarbittis exports rose from Rs. 36.96 million to Rs. 40.85 during the comparable periods, reflecting an increase of 10 percent. Exports of dyes, intermedites, alcohol and coal tar chemicals amounted to Rs. 172.35 million during April-November, 1978. Exports of basic inorganic and organic chemicals stood at Rs. 123 million, while those of glycerine, soaps, detergents, cosmetics and toiletries aggregated to Rs. 76.35 million.

Item-wise, the products which showed improvement during the period were:— medicinal castor oil (valued at Rs. 210.7 million), proprietory and patent medicines (Rs. 35.42 million), berberine hydrochloride (Rs. 3.2 million), headache, neuralgia and pain remedies (Rs. 2.5 million), anthraquinone (Rs. 18.8 million), carbon black (Rs. 11.1 million), potassium permanganate (Rs. 5.1 million), aluminium phosphide (Rs. 5.2 million) others insecticides (Rs. 4.1 million), toilet soap (Rs. 3.6 million), fatty acids (Rs. 7.2 million), agarbattis (Rs. 40.8 million), psyllium seed (Rs. 20.3 million), nicotine sulphate (Rs. 9.1 million), palmarosa oil (Rs. 3.1 million) and senna leaves and pods (Rs. 14.3 million).

Export of Surplus Molasses

The Central Molasses Board has reached the consensus that with an estimated production of 2.7 million tonnes of molasses during the 1978-79 season, a surplus of around 300,000 tonnes will be available for export after meeting fully indigenous requirements.

The Board, which met recently in New Delhi under the Chairmanship of Mr. H. N. Bahuguna, Union Minister for Petroleum, Chemicals and Fertilisers, however, concluded that with an estimated production of 535 million litres of alcohol, very little surplus may be avaialble. Export of alcohol may, therefore, not be permitted till the position is reviewed after five months.

The Board accepted with slight modification inter-state allocations worked-out by its Working Committee. It was agreed that surplus States would issue release orders to deficit states on a quarterly basis and these allocations would be valid for an additional two months after the expiry of the quarter. If the deficit states did not lift molasses within that period, surplus States would be free to a export of lapsed quantities of mola

It was also decided that deficit s may not export alcohol. To r sure that exports are not made these States, it was decided export of alcohol and molasses be cleared by the concerned E Commissioners of the State with Ministty of Petroleum, Chemicals Fertilizers.

It may be recalled that on acc of glut of molasses recently, ex policy had been temporarily moc and from November 29, 1978 ex of molasses had been permitted u open general licence. Similarly, ex of alcohol also had been put on from November 27.

In view of the increased availal of molasses, a serious thought ha be given to available distillation lities and the export potential country had, keeping in mind al while home requirements of indu alcohol.

The Minister said that before perm exports, the State governments ensure full availability of molass the distilleries in the country fo production of industrial alcohol for other industrial uses. Simul ously, they must also ensure tha stocks of molasses are allowe perish or go waste.

Industrial Growth an Diversification

National Income Goes U

The net national income of I stood at Rs. 433,950 million as pared to Rs. 403,950 million du

the previous year. The quick estimate of national and per capita Income of the country released by the Central Statistical Organisation (CSO) says the national income registered an increase of 7.4 percent in 1977-78 over the previous year. The increase was only 1.4 percent in 1976-77. All figures are computed at constant prices of the year 1970-71, in order to eliminate the effect of changes in the price structure.

The considerable improvement in the rate of growth in 1977-78 has been mainly due to the large increase in the production of foodgrains from 111.2 million tonnes in 1976-77 to 125.6 million tonnes in 1977-78. Other sectors of the economy also registered increase during 1977-78 as compared to 1976-77, the more important of these being banking and insurance (11.1 percent), construction (8 percent), fishing (5.8 percent) and public administration (5.7 percent).

The per capita income at 1970-71 prices during the year 1977-78 stands at Rs. 690 as compared to Rs. 656 in 1976-77. This shows an increase of 5.2 percent in 1977-78, in contrast to a decline of 0.6 percent in 1976-77 over 1975-76. This increase of 5.2 percent in the per capita income during 1977-78 compares very well with the average annual increase of 1.47 percent in per capita income during the past 28 years. The increase during 1977-78, is, thus, more than three times the average increase over this long period.

Better Performance of Engineering Units

The production of the 16 public sector undertakings under the Department of Heavy Industry, during the first eight months of the current financial year 1978-79, was worth Rs. 5967.50 million, i.e. 33 percent higher than the production valued at Rs. 4494.40 million in the same period last year.

In addition, the Engineering Projects (India) Limited, a consultancy-cum-contracting company, also under the Department of Heavy Industry, had a turnover of Rs. 624.40 million during these eight months, marking an increase of Rs. 215.10 million over the turnover of Rs. 409.30 million in the corresponding period last year.

During the month of November 1978 alone, the 16 units produced goods worth Rs. 822.70 million which is 20 percent higher than the production of Rs. 686.1 million in November last year. The turnover of the Engineering Projects (India) Limited during the month was Rs. 107.80 million, indicating an increase of 82 percent over the turnover of Rs. 59.2 million in November last year.

The total production from the Bharat Heavy Electricals Limited plants, during the first eight months of the year, was worth Rs. 3469.10 million, which is 86 percent of the target of Rs. 4052·60 million and 27 percent higher than the production of Rs. 2732.80 million in the same period last year.

The turnover of the Hindustan Machine Tools Limited, during the first eight months of 1978-79, was 983.60 million, i.e., 94 percent of the target of Rs. 1047.70 million, and 84 percent higher than the production of Rs. 355.90 million in the corresponding period last year.

Production at the Heavy Engineering Corporation Limited was worth Rs. 393.60 million during the first eight months of 1978-79, which is Rs. 206.80 million more than the production valued at Rs. 186.80 million in the corresponding period last year.

Other undertakings which recorded higher production during the first eight months of 1978-79 against the corresponding period last year are Richardson and Cruddas Limited (72 percent), Scooters India Limited (27 percent), Braithwaites and Company (16 percent), Tungabhadra Steel Products Limited (8 percent), Mining and Allied Machinery Corporation Limited (23 percent), Bharat Pumps and Compressors Limited (103 percent) and Arthur Butler (33 percent).

Higher Production of Fertilisers

Record Nitrogen production of 250,000 tonnes during December 1978 has brought total accumulative production for nine months of the current financial year to 1.58 million tonnes, marking an increase of 4 percent over the production during the corresponding period last year.

Production in December which surpassed the previous best monthly production of 200,000 tonnes in March, 1978, represented 82 percent capacity utilisation by the industry as a whole. Record production was mainly due to the fact that all the 32 nitrogen producing units in the country were in operation during the month and also because the Gorakhpur, Namrup, Barauni, Cochin and Trombay units in the public sector and the Tuticorin and Mangalore units in the private sector improved their performance.

With the commissioning of two new units at Nangal and Trombay during 1978, the total nitrogen capacity today stands at 3.26 million tonnes. The target for nitrogen production during 1978-79 is 2.25 million tonnes

and, it is expected, that actual production for the year may be around 2.2 million tonnes.

With 65,000 tonnes of phosphates produced in December, the total phosphates production till December end during the current financial year was 580,000 tonnes representing a growth rate of 15.5 percent over the last year's production of 502,000 tonnes in the corresponding period.

The installed capacity for phosphates is 1.08 million tonnes till date. The annual production target for phosphates during the current year is 750,000 tonnes. At the current level of production, the target may be exceeded and the actual production of phosphates may be around 775,000 tonnes.

Production of Commercial Vechicles Up

The production of commercial vehicles, both in the heavy, medium and light duty ranges for trucks, buses, etc. reached a record level of 5,715 in December, 1978. This is the highest monthly production so far achieved by the Industry.

In view of its importance in generating employment and serving the movement of goods and passengers, the Government is taking special measures to augment the manufacture of commercial vehicles.

The production during the period April, 1978 to December, 1978 was 40,307 as compared to 29,269 only during the corresponding period of the previous year.

The target for the year 1978-79 has been fixed at 60,000 vehicles, representing a 40 percent increase over the production performance of the previous year.

In order to further augment the manufacturing programmes for commercial vehicles, the Government has reduced the import duty on components that may be required even after obtaining the supplies from the ancillary manufacturers. Their imports would also be provided by specific clearances.

Upward Trend in Copper Output

Production of copper from the smelters of the Hindustan Copper Limited (HCL) touched an all-time high last month. According to the latest production estimates, the two smelters of the HCL at Khetri in Rajasthan and the Copper Complex at Ghatsila in Bihar produced 3093 tonnes of blister copper in December, as against the output of 2268 tonnes in the corresponding month last year—an increase of over 36 percent. Of this, Khetri produced 1619 tonnes and Ghatsila, 1474 tonnes.

Compared to production in the previous month, the output in December more than doubled this year from 1474 tonnes in November 1978, to 3093 tonnes, the increase being very substantial at Khetri.

The improvement in blister copper production at Khetri has been mainly due to improved performance of the smelter as a result of the various steps taken by HCL to overcome operational and technical problems which had affected the efficiency of the smelter.

Additional Cement Capacity Approved

The Union Minister of Industry has approved the setting up of an additional 4.6 million tonnes of new capacity in the cement industry. This is expected to be completed in a period of 30 months and would involve setting of five new cement plants in Mad Pradesh, Maharashtra and And Pradesh and the expansion of th existing plants in Rajasthan, Himac Pradesh and Madhya Pradesh.

The total investment estimated be involved in creating this additio capacity is about Rs. 2600 milli This would be subject to the n guidelines relating to debt equ ratios.

Letters of intent have been appro in favour of (1) Associated Cem Companies Ltd. (ACC) for the ma facture of an additional 50,000 ton of white cement at their Jabalp plant in Madhya Pradesh ; (2) additional capacity of 160,000 ton to the existing capacity of 400,0 tonnes in the Bilaspur plant in Him chal Pradesh ; (3) M/s. J. K. Syntheti Ltd., for the manufacture of 50,0 tonnes of white cement at their pla at Nimtakera in Rajasthan ; (4) M/ Modi Rubber for a capacity of 900,0 tonnes at Raipur, Madhya Pradesh (5) Larsen and Toubro for 1.1 millio tonnes at Chandrapur in Maharashtra (6) Century Spinning and Manu facturing Company Ltd., for 1 millio tonnes also at Chandrapur, Mah rashtra ; (7) M/s. Keshoram Cemen for 400,000 tonnes at Kurnool, Andhr Pradesh, and (8) M/s. Coromande Fertilisers for a cpacity of 900,00 tonnes at Cuddapah in Andhra Prade

National Handloom Expo

A National Handloom Expo will b held at Calcutta from February 15 t March 16, 1979. The Expo is bein organised by the Development Com missioner for Handlooms of the Unio Ministry of Industry in collaboratio with the Government of West Bengal This is the first time a major handloom exhibition is being organised in

Calcutta. The handloom exhibitions organised during 1978 in Delhi, Madras and Moscow have proved very popular and has created wide impact with the result that there is greater appreciation for handloom fabrics. The recent Handloom Complex in the National Small Industries Fair (NSIF) in Delhi was a big draw and more than Rs. 11.80 million worth fabrics were sold. It is hoped that more than Rs. 10 million worth of fabrics would be sold in Calcutta too. All the States in the country are putting up their pavilions with their latest handloom fabrics particularly for the poor people Janata dhoties and sarees will be brought in large number besides other low-priced material.

A theme pavilion explaining the salient features of handloom industry together with printing, dyeing etc. will be put up by the Development Commissioner for Handloom at the Calcutta Exhibition.

The Expo will be held in the huge Calcutta Midan where traditional structures befitting the handloom industry will be put up. There will be daily fashion pageant on handlooms besides cultural programmes which will emphasise the need to encourage handloom fabrics besides promoting the cause of unity in diversity.

Criteria for Productive Capacity of Industrial Units

The Union Ministry of Industry has defined the criteria for determining the productive capacity of an industrial undertaking for the purposes of endorsing it on its Registration Certificate.

In case of items not reserved for small scale industries, the capacity will be decided taking into account:—

(a) the productive or installed capacity of the undertaking as specified in the application for registration made under sub-section of Section 10 of the Industries (Development and Regulation) Act ;

(b) the level of production immediately before the date on which the application for registration was made ;

(c) the level of the highest annual production during the three years immediately preceding August 29, 1973, the date on which the Industries (Development and Regulation) Amendment Bill, 1973 was introduced in the Parliament ;

(d) the extent to which production during the said period was utilised for export ; and

(e) such other factors as the Central Government may consider relevant including the extent of under-utilisation of capacity if any, during the relevant period due to any cause.

For items reserved for small scale sector, the productive capacity would be determined with reference to the best three years production achieved by the undertaking prior to the date of reservation or August 29, 1973, whichever is earlier. This will however be subject to the following terms :

(a) no undertaking should exceed maximum production levels achieved prior to December 31, 1978 and where an undertaking is producing in excess of capacity as determined above, it should bring down its production to registered capacity as endorsed on the Registration Certificate within a period of two years from January 1, 1979 ;

(b) if the undertaking agrees to buy and market same or similar products of small scale industries, its capacity determined according to the above criteria will be enhanced to that extent. If the actual production excceds the enhanced capacity as determined above, the undertaking will have to bring down its actual production to the level of such enhanced capacity within a period of two years from January 1, 1979.

Undertaking in respect of which the Registration Certificates have already been endorsed in the past and where the items concerned are reserved for small scale sector, such undertakings, may, if they so desire, submit their Registration Certificates for re-endorsement. Such requests will be considered on the basis of the criteria mentioned above.

The Government had issued a Notification on January 13, 1978, under which undertakings pertaining to all industries included in the First Schedule of the Industries (Development and Regulation) Act were called upon to submit their Registration Certificates within a period of three months for endorsement of productive capacity thereon under Section 10 of the Act.

In response to this Notification, a number of Registration Certificates have been received by the Government for getting endorsements made on them.

Import of Soda Ash Allowed

Government has allowed import of soda ash (both dense and light varieties) to tide over its shortage in the country.

Soda ash is an essential raw material in the glass and silicate industries.

On import, soda ash is liable to customs duty of 75 percent *ad valorem* plus a countervailing excise duty of 10 1/2 percent *ad valorem*. Since the landed cost of the imported goods after payment of full customs duty would make the imported goods costlier than the indigenous soda ash, Government has decided to exempt soda ash of dense variety from customs duty in excess of five percent *ad valorem*, soda ash of light variety in excess of 35 percent *ad valore m*and from the whole of the auxiliary duty of customs leviable thereon. The imported soda ash will, however, be liable to additional duty of 10 1/2 percent *ad valorem*. These concessions, however, will apply only to soda ash imported on or after January 4, 1979 and will be valid upto June 30, 1979.

Viscose Staple Fibre Exempted from Customs Duty

The basic excise duty on staple fibre and tow of cellulosic origin has been aised from Rs. 1.50 per kg. to Rs. 2.65 per kg.

Simultaneously, the countervailing duty on imports of viscose staple fibre and viscose tow has been kept at Rs. 1.32 per kg. However, viscose staple fibre and tow and polynosic staple fibre have been wholly exempted from basic and auxiliary duties of customs. The notifications relating to exemption from customs duties have been made effective upto December 31, 1979.

The increase made in the excise duty and countervailing duty in respect of viscose staple fibre and tow and polynosic staple fibre above is aimed at ensuring a fair price to the cotton growers consistent with the interests of consumers.

Facilities for Small Scale Salt Manufacturers

The Union Ministry of Industry has decided to give equal opportunities to all manufacturers of salt in allocation of railway wagons under the Zonal Scheme drawn up by the Salt Commissioner for movement of salt. However, the salt produced by them will have to conform to ISI specifications and to be prepared in land to which they have lawful access.

Under the Zonal Scheme, the Salt Commissioner allots wagons to different manufacturers for distrubution of salt, taking into account the quantity produced at different production centres, requirements of States, preferences of consumers for particular varieities of salt and convenience of movement etc.

The decision of the Ministery removes the difficulties of the small scale salt manufacturers who had represented to the Government that for want of adequate transporation facilities, stocks were accumulating with them. They had requested that the facilities provided under the Zonal Scheme to licensed salt manufacturers should be extended to them also.

Unlicensed small scale units, operating on lands less than ten acres, contribute 15 to 20 percent to the salt produced in the country. In view of the genuineness of their difficulties and Ministy's desire to help small units, the Government have agreed to remove all restrictions in the matter of movement of salt.

The Government had already given concession to unlicensed salt manufacturers, working in areas upto ten acres, to produce salt freely in land to whcih they have a la access, by whatever process they de viz., by construction of pans and s evaporation or boiling of brine scrapping or excavation of salin e ea or natural formation of salt. T were not required to take any lice for this purpose.

Also, all manufacturers of salt worki in areas upto ten acres, includi those under the licensing system, a exempt from the levy of cess.

Improved Performance of WCL

The production in the Western Coa fields Ltd. (WCL) during the ni months from April to December ro to 17.28 million tonnes, compared 15.69 million tonnes in the corre ponding period of the previous yea The total offtake also move up 16.99 million tonnes in the sam period of 1978 from 16.49 millio tonnes in the corresponding period 1977.

The WCL has achieved the highe ever production of 2.21 million tonne in December 1978, surpassing it previous best of 2.05 million tonne in March 1978. This marked anincreas of 13.2 percent over the productio level of 1.95 million tonnes in th corresponding month of the previou year.

The WCL daily rate of productio also went up to 83,200 tonnes i December 1978, compared to 73,19 tonnes in the corresponding month of 1977.

The pit-head stocks with the WCL which were 1.19 million tonnes on November 30, 1978 compared to 1.27 million tonnes on the last day of 1977, rose to 1.46 million tonnes on 31st December, 1978.

Encourging Growth of Ancillaries in Defenee Units

The Minister of Defence, Mr. Jagjivan Ram, disclosed that a system of long-erm contracts whenever feasible, ogether with assistance in meeting levelopment costs, are among measures being introduced in order to encourage the growth of ancillaries in the civil sector to main defence production units.

Speaking at a meeting of the Consultative Committee of Parliament for the Ministry of Defence, at which he presided, the Defence Minister said that ancillaries had not grown adequately in the country either in the defence or in the civilian fields. One of the handicaps was the absence of long-term commitments by main production units. It is proposed to rectify this to the maximum extent possible.

Reviewing the progress of defence production, the Committee was informed that a number of schemes for modernisation were underway in the ordnance factories. As many as 28 sanctioned projects were currently in various stages of implementation costing nearly Rs. 3200 million. The more important of these which would go a long way in increasing areas of self-sufficiency and which were presently under execution, were a new propellant factory, new pyrotechnic factory, the Indian field gun factory and facilities for production of various kinds of ammunition for new weapon systems.

The Minister said that the ordnance factories had grown over the years in complexity and diversity and had met the demand of the services both in quantity and in quality and had risen to the occasion during the hostilities. The production pattern was characterised by changing product mix-multiplicity of end products, fluctuating load, productionisation of new arms and ammunition and high rate of obsolesence. The production of diversified stores also called for a close integration and synthesis of various technologies involved. Both from point of view of security as well as the need for development of specialisation, the factories had been planned technologically and component-wise.

He stated that special emphasis was being laid on accelerating the pace of indigenisation, with a special eye or items of critical need on which external dependence was on exclusive sources. Wide-ranging consultations had been held in recent months with the civil industry on its participation in production for defence, with a view to accelerate indigenisation. He announced that one of the recent decisions was to bring sample rooms out of the isolation of cantonments into more accessible locations nearer the towns where industry will be able to study more conveniently, what items could be indigenised by them.

The Committee was informed that the extent of indigenisation had already reached about 96 percent in the main battle tank, 27 percent in the radar controlled anti-aircraft guns, 80 percent in the medium machine gun and 91 to 96 percent in different types of vehicles. In the case of the naval frigates, the value of indigenous content had increased from 18 percent in the first frigate to 60 percent in the latest.

In the ordnance factories, the dependance on imported components and materials had been steadly reduced from over 12 percent three years ago to seven percent at present. Productivity had also been increasing and the efficiency index of labour force to nett value of production had increased from a base 100 four years ago to 161 currently. It was also pointed out that the ratio between the value of output and the revenue expenditure on it had been steadily improving and the size of inventory also reduced to more cost-effective levels. In the last year, 1977-78, whereas the nett value of production had increased, the revenue expenditure had actually declined with a gap between them of the order of Rs. 310 million.

The Defence Minister listed a number of important decisions that had been taken or were likely to be taken in regard to stepping up the production and rationalisation of the working of the ordnance factories on a more realistic result-oriented pattern. The restructuring of Directorate General of Ordnance Factories Organisation, as recommended by Rajadhyaksha Committee had already been approved by the Cabinet. This would provide more autonomy and greater thrust in the Organisation to meet future targets.

The Ministers told the members that the nine public sector undertakings under the Administrative control of the Department of Defence Production, had helped to widen the defence production base and highly diversified it. He said that the main thrust of policies and plans had been to achieve speedy self-reliance, fast indigenisation a id rapid modernisation of weapons and equipment and methods of production. Thrust for the future would be for more accelerated indigensiation and production of critical items.

He said that in order to accelerate the pace of indigenisation a high level group was formed under the Chairmanship of the Minister of State for Defence to oversee follow-up action. A number of Technical Groups had been set up under its auspices for various sectors such as armament; electronics ; vehicles etc. Action had been taken to indigenise 2,585 items ; other items were also being progressively taken up.

Science and Technology

Performance of BTRA

The twenty-fourth annual general meeting of the Bombay Textile Research Association (BTRA), Bombay, was held recently. The Chairman of the Governing Council of BTRA, Mr. Radhakrishna R. Ruia in his address referred to the transfer of BTRA from CSIR to the Ministry of Industry effective from April 1, 1978. He expressed deep appreciation for the sustained co-operation and help received from the CSIR and said that though a close contact with the user industry is an accomplished fact and a distinctive feature of the co-operative Research Associations like BTRA, the change-over to the Ministry of Industry is sure to help further in that direction. In this connection, he welcomed the support that the recent textile policy lends to R and D in solving the problems of the textile industry.

The Chairman then enumerated a few of the important achievements of BTRA in the reporting period. Twenty one research/survey projects were successfully concluded, among which were the study of factors affecting the performance and productivity of conventional ring frames, improvement in the appearance of mill yarn by modification to the processes, assymetric web condensing for improved silver regularity, study of hairiness of sized yarns and other factors for improved warp preparation and several studies in chemical processing leading to fancy prints and novel finishes. During this period, technical know-how on six more processes was released to the member mills, which are as follows :

(1) BTRA process for colouration of textiles with indigenous Rapidogen dyes by the process of curing/thermosoling; (2) BTRA process for printing of partial white/coloured resist on polyester fabrics under disperse dyestuffs. (3) BTRA fancy print on 100 percent polyester fabrics: (4) BTRA rapid bleach process on pad-roll system ; (5) BTRA catalyst VC system for stenter curing of resin finished fabrics; and (6) BTRA 2-tone effect on 100 percent polyester fabrics.

In the field of operations studies, useful work was done on productivity and cost in dyeing, standardisation of clerical systems and procedures, development of productivity standards for fabric bleaching department, etc. The machinery maintenance audit work in spinning, weaving and chemical processing covers in all 34 sponsoring mills.

Production-cum-Distribution Scheme for Essential Commodities

Mr. Mohan Dharia, Union Minister for Commerce, Civil Supplies and Cooperation, recently suggested at the Chief Ministers' Conference that the implementation of the Production-cum-Distribution Scheme for selected essential commodities might commence from July 1, 1979 throughout the country. He said that the next six months would give sufficient time t the State Governments to work the details and gear up their machin

The Conference of Chief Ministers been convened by the Comm Minister to discuss the implementa of the massive Production-cum-Di bution Scheme for essential comm ties and to discuss measures for incr ing the involvement of the State vernments in export efforts.

He felt that the economic fac presently were propitious in launch the system this year when the Gov ment had the wherewithal to back it in the form of food reserves and fore exchange resources. Further the m sive investment programme which country was launching, needed s a system for its subsistance. He s that the country's success of plann and policies in a way lie in the succ of such schemes.

The scheme which was discussed int sively with the Central Ministries a the Planning Commission and circu ted to all the State Governments their views and suggestions subsequently approved by the Cent Cabinet taking into account suggestions of the State Governmer The finalised scheme was placed bef the meeting for initiating second phase of operations, that implementation.

The proposed scheme consist of package of measures right from prod tion stage to distribution at the fi point at consumer end and interveni stages comprising procurement, stora and transportation. Bulk of beneficiaries of the proposed syst would be the weaker sections of socie the working class whether in fields in factories and the lower middle cla It is also expected to act as a guarant

to unorganised sectors of society suggesting that the essential consumption items would be provided to them at suitable and reasonable prices.

The Minister said that in this national endeavour State Governments would have to play a crucial, in fact, a major role. They would have to involve themselves in all the aspects of this Production-cum-Distribution System. He said that eventually, the system would have to encompass many more items and many more commodities, both agricultural and industrial. As far as the industrial commodities are concerned, the Government of India is appointing a Committee to identify these commodities and the modalities of their procurement and distribution, so that their supplies can be maintained to the proposed system. However, the Minister felt, that the State Governments would have to do mush more in terms of strengthening the infrastructure of their civil supplies departments, civil supplies corporations giving support to the local institutions and cooperatives, and more so in strengthening the production system in their agricultural and industrial sectors which were essential for ensuring its success. Without sustained production on priority basis, the system may come to a grinding halt, he added.

The Minister said that Government was seeking to create a permanent distribution mechanism that would aid and guide allocation of mass consumption items to all sections of the society in a fair and equitable manner, so that the unorganised sections of the society did not become victims of blind market forces. "We do not accept that the market forces should dominate our process of economic develpment; rather, we seek to guide these forces so as to meet today's national imperatives, i.e. attainment of-self-reliance and rendering of social justice", he added. He said that although we might be clear in terms of strategy, the importance of details and importance of making this system viable cannot be undermined, as only then durability of the schemes could be ensured. In this, the crucial point is the economies of the final outlet of retail, whether it be a shop run by cooperatives or by the local Governments, or by private shopkeepers. This unit will have to be given sufficient turnover so that costs are lower, distribution charges are minimised and viability is ensured.

Regarding exports, the Commerce Minister observed that Government recognised the need and urgency of reformulating export and import policies and procedures so that these reflected adequately the important structural changes which had taken place in the economyand more particularly the objective and priorities of planning and development. He said that Government fully recognised the vital importance of rapid export growth for long-term needs of national economy and was quite concerned about the recent deceleration withnessed in the country's exports. Constant watch on the trend of exports was being kept and a number of decisions had been taken and action initiated on a series of others with a view to bringing about basic structural changes in the foreign trade so as to lay the foundation for a suitable and sustained growth in exports. He said that the Central Government had already been taking specific measures in so far as the exports of non-traditional items and other leading sectors were concerned but in boosting the exports of the products of decentralised sectors and agricultural products which form a major part of country's export strategy, the State Governments had a big role to play.

The Minister said that to achieve this objective, it was necessary that the production of these items was increased so that more exportable surplus could be generated. This could be possible only if special assistance was provided for their production and the various impediments in this ragard were removed. Such measures would include making available to the producers, scarce raw-materials at reasonable prices, regular supply of other essential inputs like power, water, etc., providing market intelligence and incentives for export production like reduction of indirect taxes burden, financial assistance etc. He added that in the light of the performance of agricultural exports over the past few years, the Task Forces had indicated several policy directions to impart a new impetus to export of agricultural and agro-based products with due consideration to domestic consumption as also potential for increased agricultural production in specific directions.

The Minister noted that the State Governments might like to examine the export potential which existed in their area. Some of them had already got export surveys made, others may also like to get this done. The Indian Institute of Foreign Trade, an agency of the Ministry of Commerce, was ready to provide required assistance for carrying out export potential surveys. Public sector agencies like STC, MMTC, HHEC, PEC, etc. had been directed to render necessary services to the State Governments for promoting exports from their areas as well as by undertaking imports of the required inputs especially for the state undertakings requirements in the field of engineering. In order to have a continuous dialogue

with the State Governments regarding export efforts, the Minister said that Central Government had already designated one officer of Commerce Ministry to work as a focal point for each of the States. The Minister suggested that similar action could be taken in the State Governments by identifying a focal point to coordinate the State Governments' export efforts.

Inaugurating the Conference, Mr. Morarji Desai, has said that it is a production-cum-distribution scheme and also connected with it is the involvement of the State in exports of several commodities with which the States are vitally connected.

It can succed only if the state Governments look after it because it is ultimately the States which have to implement it. The Centre can only help in the process of removing some bottlenecks or giving some help in some matters or by giving suggestions.

Distribution comes after production as the latter is the most vital factor. Unless the things are in proper supply, whatever you do for distribution is going to get away. Even in some commodities where the supply is not abundant, if the distribution system works satisfactorily and honestly then the consumers can be assured of supply of a proper quality at fairly stable prices, he has added.

The Prime Minister has observed that India is now-producing sufficient and even more of several items. But there are some items where the production is not sufficient, for example, pulses. That is where production has to be looked after. This can only be done by States.

Referring to the question of maintaining a proper price for the producer and its stability, the Prime Minister has remarked that the prices go very high when the articles are scarce. But when they are abundent, then the prices begin to come down. There also price level is to be maintained. Otherwise, again, the production will go down.Exports can help. The exports can be done in all items except where the prices are not competitive. Take, for example, sugar. It is not possible to export very much. There is also an agreement whereby the country cannot export more than a certain amount Therefore, in such commodities, one has got to see how much more can be produced. Bu the matter of foodgrains, in the ma of vegetables, in the matter of fr in the matter of cloth, in the ma of all these articles, India produce any amount and send anywhere because she can be c petitive with other countries provi the production is taken care of i proper manner. This is where Government's function comes in. has to see that the producers are enal to produce fully and profitably and a low cost. This is where the Gove ment can supply the necessary gui lines and help wherever it is require

The Prime Minister has held that regard to export, one will have see that the markets outside are taken up for granted. If the cou try is unable to maintain the stea supply, then that also can dry up. The fore, it should be seen that the pr duction is properly looked after depen ing, of course, on the season. Prop production on a low cost basis wi efficiency has got to be ensured. Wha ever is necessary has got to be don such as proper distribution ar properly canalised and arrang exports.

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economic and commercial news

News Highlights

Indian Drug Plant for Abu Dhabi

India has offered to set up a drug manufacturing plant in Abu Dhabi. This was indicated recently to Mr. Khalfan Al-Roumi, UAE Minister of Health by Mr. H.N. Bahuguna, the Union Minister for Petroleum, Chemicals and Fertilisers. The UAE Minister appreciated the quality and the presentation of IDPL samples already submitted to UAE and said his country would be prepared to enlist Indian Drugs and Pharmaceuticals Ltd., (IDPL) as a potential suplier of drugs and pharmaceuticals.

Indian Firm Bags Libyan Contract

An Indian firm, the Development Consultants, Calcutta have been awarded a contract by Libyan Government. This contract worth over 3 million Libyan Dinars is for the management of a cement plant at Homs. This is one the projects which were negotiated at the first session of the Indo-Libyan Joint Commission.

Strengthening Indo-Afghan Economic Ties.

During a mid-term review of the fifth session of the Indo-Afghan Joint Commission

(*Contd. on page* 2)

Export Performance and Potential

Indo-Afghan Joint Commission Meets

The mid-term review of the 5th session of the Indo-Afghan Joint Commission for economic, trade and technical cooperation was held in New Delhi recently. The Indian delegation to the talks was led by the Foreign Secretary, Mr. Jagat S. Mehta and the Afghan delegation by their Deputy Minister for Planning, Mr. Fateh Mohammad Tarin.

The discu sions were held in an atmosphere of warmth and cordiality, reflecting the traditionally close and friendly relations between India and Afghanistan.

The two sides reviewed with satisfaction the progress of projects being implemented under the purview of the Joint Commission. They exprssed the hope that the implementation of these projects would be further accelerated. The Afghan delegation put forward various fresh proposals for the Government of India's assistance. These related to the setting up of plants for the production of match-boxes, paper, caustic soda and phosphate fertiliser, agricultural equipment and asbestos.

Indian assistance has also been requested for establishing a centre to maintain roads and the promotion of adult literacy. The Indian delegation agreed to consider financing such projects, on mutually acceptable terms. as are found feasible. It was felt that priority should be given to project for: paper, caustic soda and phosphatic fertilizer, agricultural equipment, including pumps and road construction and maintainance centre. Feasibility studies for these projects would be undertaken with Indian assistance in the near future.

the two sides expressed the hope that the implementation of the projects under Commission's purview would be further expedited. The Afghan delegation put forward fresh perposals relating to setting up of plants for the production of match boxes, paper, caustic soda, phosphate fertiliser, agricultural implements and asbestos. The Indian side agreed to consider financing such projects on mutually acceptable terms.

Furthering Indo-Austrian Technological Cooperation

According to a recent memorandum of understanding between Indian and Austria, the two countries would foster cooperation in scientific and technological fields of mutual interest. They will initiate cooperation in semi-conductor and solid state physics, special steels alloys and iron, high temperature, materials, synthetic organic chemistry of natural products and so on.

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The Agreed Minutes of the mid-term review were signed by Mr. U.S. Bajp Secretary, Ministry of External Affairs and Mr. Fateh Mohammad Tari The next meeting of the Joint Commission would be held towards the e of 1979.

A multi-disciplinary team from the Union Ministry o Industry is to vis Afghanistan to identify on-going and new industrial projects in the impl mentation of which India could help. This was indicated by Mr.Georg Fernandes, Union Minister of Industry, to Mr. Fateh Mohammad Tari when the latter, accompanied by other members of his delegation, called o the former recently in New Delhi.

The Industry Minister assured him of all possible help in the economi development of Afghanistan. He said some Members of the multi-disciplinar team could prolong their stay in Afghanistan to study in-depth some specific projects for the production of caustic soda, matches, paper, asbestos, fertilisers, agricultural equipment, machine tools and cement etc. so that India could involve hereself on a long-term basis in the industrial progress of Afghanistan. He suggested that possibilities of starting some joint ventures could also be examined.

Members of the Afghanistan delegation expressed a desire that India should in developing handlooms, handicrafts and small scale industries and in organising industrial coopertives as well as training for artisans. Mr. Fernandes said that a separate team could visit Afghanistan for this purpose.

It may be mantioned that bitateral trade exchanges are governed by a Trade and Payments Agreement which provides for a free trade between the two countries in free convertible currency. This agreement has done away with the modified system of barter trade agreed to by the two countries in 1975 under which imports from Afganistan were counterbalanced by exports from India and trade under this system was to be in rupee currency, under the existing agreement, the trade flow between the two countries will be permitted to find its level based on supply and demand as well as competitiveness in their respective markets.

During 1977-78 (April-September), India's exports to Afghanistan are estimated to be of the value of Rs. 59.4 million and imports from Afghanistan of the value of Rs. 106 million. In 1976-77, India had exported goods worth Rs. 216 million to Afghanistan and had imported from that country goods worth Rs. 268.4 million. India's main exports to Afghanistan comprised tea, crude vegetable materials, textile fabrics, cotton manufactures, machinery, transport equipment and bicycles and bicycle parts. India's main imports from Afghanistan included dried fruits, fresh fruits, asofoetida and liquorice.

India's Offer of Drug Plant in Abu Dhabi

The proposal to set up a drug manufacturing unit in Abu Dhabi by the Indian Drugs and Pharmaceuticals Limited (IDPL) was discussed when

Mr. Khalfan Al-Roumi, UAE Minister of Health, who was recently on an official visit to India, called on the Union Minister for Petroleum, Chemicals and Fertlisers, Mr. H. N. Bahuguna.

India's Minister assured the UAE Minister that the IDPL would be prepared not only to set up the drug unit but to visualise it, if need be, as a joint venture project. The proposed unit after meeting the needs of United Arab Emirates (UAE), he said, might be able to export drugs to some of the neighbouring countries also. He further assured the UAE Minister that the drugs produced by the Unit would be comparable, both in cost and quality, with the best products in the market.

Mr. Al-Roumi appreciated the quality as well as the presentation of the IDPL samples already submitted to UAE and said his country would be prepared to enlist IDPL as a potential supplier of drugs and pharmaceuticals after the necessary formalities are quickly gone through.

Mr. Bahuguna further suggested that UAE experts could visit the Indian Petrochemical Complex at Baroda as petrochemicals offered another rich field in which India could be of help to UAE. The Minister welcomed the suggestion particularly in the light of the petrochemical potential in UAE and acknowledged that the experience and expertise of India would be of great value to UAE.

Indo-Austrian Technological Cooperation

India and Austria will strengthen cooperation in the scientific and technological fields of mutual benefit. A memorandum of understanding to this effect was signed recently in New Delhi. Dr. Wilhelm Grimburg, Secretary, Department of Research signed on behalf of Austria and Prof. M.G.K. Menon, Secretary, Department of Science and Technology and Director-General, Council of Scientific and Industrial Research (CSIR) on behalf of India.

The two sides will initiate cooperation in semi-conductor and solid state physics; special steels, alloys and high temperature materials; synthetic organic chemistry of natural products; and powder matallurgy and solar energy The institutions which will be cooperating in the joint research and development projects have also been identified.

The two sides have agreed to arrange the visits of scientists and experts in all these fields to work out concrete operational work plans.

The understanding was reached after the disussions held during the visit of an eight-member delegation from Austria led by Mrs. Hertha Firnberg, Federal Minister for Science and Research. Earlier, Prof. M.G.K. Menon had called on Mrs. Firnberg and had informal exchange of views with her regarding science policy and planning and joint reserach and development programmes.

Dr. (Mrs.) Hertha Firnberg, also met Mr. Geroge Fernandes, Union Industry Minister. He referred to the discussions he had with the Austrian Industry Minister in Vienna recently about the areas of cooperation between the two countries in the field of industry. India and Austria, he had told the Austrian Industry Minister, could collaborate in the manufacture of trucks and in immproving the production capability of the steel mills at Rourkela and Bhilai. Austria was quite advanced in the field of metallurgical industry and her perticipation in this area in India could also be increased. He requested Dr. (Mrs.) Firnberg to get the matter expedited. Dr. (Mrs.) Firnberg said she would get the matter pursued. She also added that the research done in the scientific laboratories in Austria could be of benefit to India's industries.

It was a pleasuant surprise for Dr. (Mrs) Firnberg, when she was informed by the Union Railway Minister, Prof. Madhu Dandavate that the Indian Railways were earning surplus and that the whole system was 93 percent indigenous. The Railway Minister apprised the Austrian Minister of the gigantic operations of the Indian Railways. Prof. Dandavate also informed her that after meeting country's ever-increasing needs, India was exporting coaches, locomotives and wagons to developing countries. The Railways were also meeting social needs of the country by carrying commuters in metropoltian towns at lower fares, he added.

Indian Firm Secures Libyan Contract

The Libyan Government has awarded a contract to the Development Consultants, Calcutta, for management of a cement plant at Homs. The contract is of a value of over 3 million Libyan Dinars.

This is one of the projects which were negotiated at the first session of the Indo-Libyan Joint Commission that met at Tripoli from December 9 to 11, 1978. The Indian delegation to the session was led by the Union Minister of Industry, Mr. George Fernandes, who is Co-Chairman of the Commission.

It will be mentioned tha the economic relations between India and Libya have been strengthened over the years. The Indo-Libyan Joint Commission has been set up to look after bilateral relations and to promote economic and trade interests of both the countries. The areas of mutual cooperation has been power

projects, construction activity, textiles mils, technology etc. This cooperation has been further strengthened by a protocol on economic, industial, scientific and technical cooperation. The planning and construction of two townships in Libya by Indin companies for a value of Rs. 2000 million in the first phase as also for airport works in Libya by International Airport of India (IAAI) for a value of Rs. 700 million, buildings for People's Congress at about Rs. 400 million, classroom at schools at a cost of nearly Rs. 300 million, Tripoli West power station and Zuara power station would be notable symbols of Indo-Libyan economic ties.

Trade flows between the two countries has also been on the increase. The bilateral trade is regulated in accordance with a trade agreement. India's exports to India mainly comprise metal manufactures, iron and steel, machinery and transport equipment and manufactured tobbaco, spices, cotton yarn and thread.

Notable Business at Film Market

Film Market set up on the occasion of 7th International Film Festival of India (IFFI) has recorded a firm business worth about Rs. 7.1 million, involving deals with foreign countries, both by the Indian Motion Pictures Export Corporation (IMPEC) and the private parties.

IMPEC signed with Iraq for supply of 31 Hindi films and one Kannada film, the total value of which is estimated to be approximately Rs. 2.163 million. The private parties during the course of the functioning of the market signed contracts with Portugal, Tanzania, Libya, Mauritius, Arabian Gulf, Lima, Peru, Czechoslovakia and Romania, covering a total of 73 films of the va·ue of nearly Rs. 4.932 million.

In addition some of the foreign delegates invited to the Film Market are busy previewing films at Bombay and many more firm orders are expected to materialise and it is hoped that the total business as a result of this Market would be well over Rs. 10 million.

Czechoslovak TV have also shown interest in a 9 Indian films including one Bangali and three Kannada and when finalised the deal is expected to earn India approximately Rs. 86,000. Mauritius has also selected four Kannada films of the value of Rs. 120,000 and their firm order is also expected shortly. Similarly, Poland has selected four Kannada films for Polish TV and await clearance from their headquarters before the firm order is placed.

India's Foreign Trade Trends

The cumulative exports (including re-exports) during the first eight months of the current financial year April-November 1978-79 provisonally amounted to Rs. 33,917.70 million. As compared to the provisional exports of Rs. 34,724.10 million in the corresponding eight months of the previous year, the exports during the current period were lower by 2.3 percent whereas in comparison to the revised exports of Rs. 35,358.40 million of last year, these were lower by 4.1 percent.

Total imports during the first eight months of the current financial year at a provisional figure of Rs. 41,210.20 million were 21.1 percent higher over the comparable provisional imports of Rs. 34,001.10 million in the corresponding period of the previous year. However, against the revised figures of imports of Rs. 38,641.40 million last year, this increase in imports during the current period was about 6.7 percent.

As a result of substantially larg imports and some delcine in expor India's foreign trade during the fi eight months of 1978-79 has a defi of about Rs. 7290 million.

It may be mentioned that exports i cluding re-exports during the month November, 1978, are provisionally es mated to be Rs. 2937.90 million compared to the provisional figure Rs. 3215.90 million during the corr ponding period last year, thus recordi a fall of 8.7 percent. However, this f in exports is to be viewed in the bac ground of port strike in the count during the month of November 19 lasting for nearly 12 days. Conside ing that major exports of the count go by sea, both export and import figur during November 1978, were below th October 1978, level. The delcini trend in exports which was arreste in October, 1978, when there was a increase in exports to the tune of 5. percent as compared to the figures r corded during the corresponding perio last year, could have been continued t be so but for this strike. Estimating tha the overall movement of exportcarg on an average amounted to abo Rs. 110 million per day during th emonth of October-November, 1978, ar assuming that one-third of this goes b air and land route, the loss on accoun of this factor might by roughly take at about Rs. 70 million per day.

Imports during the month of Novem ber 1978, are provisionally estimated t be Rs. 4091.20 million as compared t Rs. 2849.50 million, thus reflect ing an increase of 43.6 percent. Th increase in November, 1978 ove November, 1977, can be ex-pl ned by the fact that in the impor figures, the timing of the arrival of bul cargo like P.O.L. and fertilizers etc play a dominant role. In the absenc

such bulging, the import figures ould have also shown a similar trend revealed by the export figures.

ommerce Minister's ddress at Asian Group eet

eaking at the Ministerial meeting the Asian Group of the Group , recently in Colombo Mr. ohan Dharia, Union Minister for mmerce, Civil Supplies and Cooperion said that at the 5th Conference UNCTAD scheduled to be held in anila in May, the developing counies should evolve a machianism for gh level discussion and consideration interdependence of economies and e need for long-term structural changes ther than temporary palliatives. The irections in which changes had to be rought about in the world economic stem as a whole might also be nsidered.

he Minister held that the developents in the world economy had reulted in a further worsening of the conomic situation in and for the deveoping countries. These developments ad been characterised by increasing ecourse on the part of developed counries to the adoption of misconceived olicies in an attempt to find short-term olutions to problems which arose from he structural inadequacies of the ystem.

he Minister observed that the increase protectionist measures, the decline the flow of development assistance to eveloping countries, the breakdown f the international monatery system, nstable commodity markets and adrse terms of trade from the developing ountries were among the more imortant manifastiations of such policies. hese issues were naturally a matter of he greatest concern to the developing countries but in spite of this, and even as the world economic crisis deepened, vital decisions that related to the management of the world economy, continued to be made in conclaves at which there was no participation by the developing countries. "This concentration of power in international decision-making should be unacceptable to us and we should therefore demand that developing countries play in future a much larger role in the goverance of affairs that affect their economies", he added.

The Minister referred to the adoption of the Integrated Programme for Commodities at the 4th Conference of UNCTAD and was sorry to note that the progress in this area had been most disappointing. In most commodities even preparatory work had not made satisfactory progress. He said that apart from difficulties in evolving arrangements to stabilise prices, there was little evidence or willingness to consider other measures which could lead to increased export earnings of developing countries through greater processing of commodities and control over their marketing and distribution, as well as through steps designed to enable them to meet the challenge of synthetic substitutes.

The Minister pointed out that the history of negotiations relating to the common fund, a key element in the commodity programme, was particularly distressing. It had not been possible to reach agreement as the developed countreis have, in thes enegotiations, shown inadequate appreciation of the importance of certain vital elements of the common fund, such as minimum size of subscribed capital, need for retaining the second window as an integral part of the fund, the coverage of activities under the second window and the proportion of deposits to be made by the commodity agreements. He hoped that the Asian Group would take a firm stand on these elements and express their strong determination to ensure that a decision to set up the common fund was taken well before UNCTAD V.

The Minister expressed concern at the trends in the multilateral trade negotiations. "We had set out to build a framework of a trading system which would be responsive to needs of developing countries and which would facilitate the adoption of spacific measures to provide additional benefits for the trade of such countries", he added saying that there was grave doubt whether these objectives would be realised. Indeed it was apprehended that the overall balance sheet for developing countries in the negotiations could well be negative.

The Minister continued that in area of specific concessions, a large number of products of special interest to developing countries faced the risk of being excluded from tariff outs or receiving only minimal tariff outs. There had not even a discussion on the removal of quantitative restrictions on such products as textiles. At the same time, he said that new concepts such as selective safeguard action against low-cost imports were being evolved which would single out developing country exports for protectionist action. Arbitarry concepts of graduation of developing countries have also been sought to be introduced in the trading system. The use by developing countries of subsidies which were required to overcome the structural weaknesses of their economies and the historical disadvantages from which their export sectors suffered, was sought to be denied while even currently some of the most advanced developed countries have been utilising such subsidies to promote their own exports. He, therefore, suggested that the Asian Group exercised the utmost vigilance

in the consideration of these matters, since the eventual outcome of these negotiations would lay down the rules of the international trading system for the next decade or more.

The Minister remarked that the Manila Conference would take place virtually towards the close of the second development decade and one of the tasks of the Conference would be to determine UNCTAD's input in the international development strategy for the third development decade. It thus provided with an opportunity to take stock of the progress which had been made in the realisation of the targets which were set for the second development decade and to set fresh goals for the future, he added.

The Minister indicated that the target of 25 percent share in world industrial production by the year 2000 for developing countries had already been accepted. Experience during the 1970's had shown that developing countries were poised in a number of sectors to bring about a substantial increase in their share in world production. He said that it was, therefore, necessary that they should secure the adoption of a comprehensive set of measures which would help the developing countries to increase their share in world production and trade in manufactured and semi-manufactured products. This would not only help to increase employment and incomes within the developing countries, but would also promote thereby the growth of the world economy as a whole, he added.

The Minister also referred to the vital area of shipping and said that there was an urgent need for bringing the code of conduct for Liner Conference into force giving impetus to the shippers' movement, and making the ocean freight rates more responsive to the requirements of international trade especially of the developing countries. There was need also for ensuring that the developing countries get an equitable share in the carriage of liquid and dry bulk cargo, the Minister said.

The Minister noted that the experience of the last ten years had shown that developing countries would have to organise themselves more effectively to meet the challenges that confront them. He said that it was only through the wide range of measures of cooperation in their mutual economic relations that they would be able to get their due in the management of world economy.

TDA's Significant Role in Export Trade

The Trade Development Authority (TDA) represents a new micro approach to export marketing development. Over the years, it has established a bridge of business trust between the overseas buyers and competent Indian manufacturers and exporters. It identifies viable production units particularly in the small and medium sectors, renders meaningful assistance in the expansion of export-oriented production facilities in selected product areas, stimulates product development and adaptation and helps to upgrade the technological level of industrial exports. This innovative style in export management has helped the country in breaking new ground in the field of export growth.

The establishment of close liaison with the State Small Industries Development and Export Corporation has helped identify export-worthy units in the small sector. Efforts are a foot to identify and develop the export capabilities of such units.

Since its inception, the TDA has been functioning as an instrument of growth for the products of small and medium scale industries in the sphere of non-traditional exports. It has set its eyes on higher growth rate and bigger targets. While the developed countries are generally the target markets of TDA, new countries have been added to TDA's markets thus enlarging its area of operation considerably. Thailand, Indonesia, Singapore, Malaysia, the Philippines, Hong Kong, South Korea, Saudi Arabia, Iran, Kuwait, and Iraq are among the new additions to the existing target markets comprising the USA, Canada, West Europe including UK, Japan, Australia and New Zealand. The list of product groups taken up for export promotion too has been enlarged by adding telecommunication equipment, basketry, garden furniture, carpetting, heating and cooling equipment, secooters and mopeds.

TDA has continuously been engaged in developing new markets, new buyers and new products for exports. Demand creation in the target markets for the products of its clients, product development and up-gradation of quality and services are the main thrust of TDA's activities.

Identification of areas in which capacity enhancement is needed, has been found helpful in suplementing the integrated export promotion drive adopted by TDA. New products identified for capacity creation and product development are hand gloves, locks and padlocks, garden tools, precision hand tools, vices, wooden screws, self-tapping screws and woollen knit-wear.

Efforts to reach agreements on long-term marketing tie-ups for products, that have overseas demand, have been stepped up. It is proposed to take teams of product specialists already manufacturing traditional range of products to

veloped markets (in which there is emand and expertiese is available) identify new items in these fields and rrange long-term marketing tie-ups ith producers who will supply the chnology.

roduct development and adaptation suit the demands of sophisticated conmers in the western world is most rucial to increasing the per unit value ealisation of export items. Under its ackage plan of services, TDA has een making concerted efforts to help xporters in this field by importing samles, drawings and technical literature, apital equipment, components and pares. The newly evolved counterimples in many cases have met with he approval of foreign buyers. Noteworthy success has been achieved in utomoble parts, castings, pumps, nachine tool accessories for the USA, UK and Western Europe, electronic omponents for West Germany, and ndustrial fasteners for the USA and ontainer corner castings for Western Europe and the USA.

Under the United Nations Industrial Development Organisation programme of product adaptation and development, saveral non-traditional products have been taken up for export adaptation. A considerable degree of success has been achieved in the case of bicycle spokes, with hexagonal nipples, thin barren front wheel hubs, electronic items like power transistors, capacitors, FM stereo, multiplex tuner, four channel recorder, sports goods, wooden furniture, scientific instruments, processed foods, sewing machine and components and miniature bulbs.

TDA was appointed as "Management Consultants" by the Commonwealth secretariat for organising a Buyer-seller Meet for Kenya in May 1978.

The Meet, planned and organised with management advice from the TDA, was a great success. TDA's appointment indeed was a great success. TDA's appointment indeed was a well-deserved recognition of its expertise and proficiency in organising buyer-seller meets as an effective instrument of trade promotion. The Kenya External Trade Authority was assisted by TDA in identifying the range of products for display at the meet, in marketing of exhibits, preparation of quick brief market surveys selection of publicity media and in buyer contact promotion.

France is another market where concerted efforts are being made for export development. A French export development and product adaptation project has been undertaken under which seven specific engineering products, have been selected for intensive promotion. Under this programme, French product specialists and designers would visit India followed by a team of Indian manufacturers to the buyers' premises.

In Britian, TDA is planning to hold another buyer-seller meet next year. In other markets, such, as Australia, Spain, Portugal, Austria and Switzerland, TDA gas launched contact promotion and for exchange of information on technology, prices, mark-ups, specifications, reguirements, in respect of electronics, auto ancillaries, hand tools, readymade garments and leather goods.

In October 1978, TDA had organised two buyer-seller meets in Colonge and Copenhagen, the biggest ever held in Europe, over 100 Indian firms including some State small industries and export corporations and central corporations participated. These meets provided a large scale exposure to Indian products besides projecting India's fast emerging industrial image in West European markets.

TDA has also initiated action for getting the Indian electrical and electronic items approved through Underwriters Laboratory in the US and Canadian Standards Association in Canada. This will herald a new era in the export of these products.

The rate of growth of the export value of products taken up for prmotion by the TDA has continuously been recording an upward trend, higher than that of other products. It is a convincing evidence of the helpful role played by the TDA.

The rate of growth of the export value of products taken up for promotion by the TDA has continuously been recording an upward trend, higher than that of other products.

In order to keep the Indian exporting community abreast with developments in various markets, TDA undertakes market studies on TDA range of products in selected markets. During the recent months, a number of market survey reports were brought out for use by exporters. Among these are: electronics in FRG, UK and Finland, scientific Instruments in Austrialia, New Zealand, Denmark and France, furniture in Norway and industrial fasteners in Denmark.

TDA also compiles and brings out country bulletins convering information generally needed by exporters. Country bulletins on France, Belgium Luxembourg, USA, Spain, Pakistan, Burma, Indonesia, Kuwait, Iran and Thailand have been brought out for use by the exporting community.

Industrial Growth and Diversification

Energy Generation Goes Up

An increase of 12.89 percent in energy generation in the country has been achieved during the nine months (April-to December) of 1978 over the corresponding period of the last year. It was 76,468 million units during the nine months this year compared to 67,734 million units in the same period previous year.

Region-wise, increase in power generation in the southern region was 20.36 percent, followed by northern 20.9 percent, north-eastern 11.17 percent, western 7.65 percent and eastern region 0.77 percent.

The anticipated power generation for the period January-March 1979 is estimated to be 27,286 million units, about 11.53 percent higher than the generation during the corresponding period of 1978. With this, the overall energy generation would be 103754 million units during 1978-79 showing an increse of 12.6 percent compared to the generation during 1977-78.

A target of 3857 MW of new generating capacity has been fixed for 1978-79. Against this 1717 MW additional capacity has already been added by the end of December 1978. The Minister of Energy proposes to hold a meeting again at the end of this month with the representatives of BHEL, Instrumentation Limited, Electronic Corporation of India Limited and others to get a firm indication of the total capacity to be added in this year.

New Lead Mine Project

The proposed lead mine project Sargipalli in Orissa has been cleared for implementation. Scheduled to be completed by 1981-82, the project with an investment of about Rs. 118 million, will raise lead production in the country in terms of recoverable metal to 30,000 tonnes per year by 1983-84 from the anticipated level of about 14,000 tonnes during the current year. The mine will contribute 6,400 tonnes annually to the total output. Besides narrowing the existing gap between the supply and demand of lead metal, development of the Sargipalli deposit will fully meet the lead concentrate requirements of the Hindustan Zinc's lead smelter at Visakhapatnam in Andhra Pradesh, in its expanded stage and will eventually help cut down lead imports by stepping up indigenous production.

The Sargipalli deposit in the Sundergarh District of Orissa, with an estimated ore reserve of 2.06 million tonnes, is the only major lead deposit which had so far not been taken up for exploitation. Almost the entire primary lead production is at present from the Zinc-lead mines at Zawar and Rajpura-Dariba in Rajasthan and the Bandalamottu lead mine in Andhra Pradesh which was recently taken over by the Hindustan Zinc Limited (HZL) from Hindustan Copper.

A planning Commission sub-group on non-ferrous metals had estimated that the domestic demand for lead in 1982-83 would be of the oder of 800 tonnes, sing to 66.700 tonnes annually in 1987-88, (Planning Commission projecting it at 80,000 tonnes) whereas the production expected by 1982-83 from the existing smelting capacity is exected to be around 18,000 tonnes and mine production from the existing mines only 20,000 in 1982-83 and 23,900 by 1983-84. This works out to 33 percent demand satisfaction in 1982-83 and 27 percent in 1987-88. Capacity of the lead smelters of HZL at Tundoo in Bihar and at Visakhapatnam in Andhra Pradesh are proposed to be expanded from the existing 8,000 to 10,000 tonnes per annum in the case of Tundoo and from 10,000 tonnes to 20,000 tonnes at Vizag by 1981-82. With the expanded lead smelting and refining capacity, mine production also has to go up correspondingly. Exploitation of the Sargipalli deposit, will, apart from feeding concentrates to the smelter at Vizag, offset the existing imbalances by matching smelting and mine production capacities which would both be of the order of 30,000 tonnes by 1983-84 if Sargipalli is developed. Even then, domestic production will meet demand only to the extent of about 45 percent and 36000 tonnes may still have to be imported.

The world lead situation, on the other hand, indicates a tight supply position which is likely to persist in the coming years. Although the world production of refined lead in 1977 was higher than in 1976. consumption last year increased significantly, leading to a rise in lead price in the international market and consequently, an unfavourable price structure for lead importing countries. Also, since 60 percent of the world lead production comes as a by-product of zinc, surplus zinc production and falling counsumption is likely to adversely affect the availability of lead. Hence the urgent need to plan for reducing lead imports.

In March, 1975, Hindustan Zinc Limited (HZL) had submitted a project report to develop the Sargipalli deposit as a 750 tonnes of ore per day (TPD) mine at an estimated cost of Rs. 111.6 million. A subequent survey in 1976 suggested that the project would be

ible at 500 TPD of ore and that the oject's profitability would improve th the increase in demonstrated ore erves. In August, 1977, a Task Force s formed with representatives of the ureau of Public Enterprises, Planning mmission, HZL and the Department Mines to scrutinise geological data d review the exploration and geological sting programmes then going on. sed on the additional exploration ta, a revised project report was pre-red, which together with the re-mmendations of the Task Force, was alised by HZL in March, 1978. This visages production of 500 TPD of ore mployment for 668 persons, project life f 4 years, power supply from the State lectricity Board which has already rawn a 33 KV transmission line from undargarh to supply power to the site ub-station and a township which also nclude a school and a hospital. Ex-enditure on exploration for the pro-ect till the end of March 1978 had been Rs. 9.94 million.

HTL to Manufacture Electronic Teleprinters

The Hindustan Teleprinters Ltd., Madras is poised for a big breakthrough. The Company has drawn up modernis-ation plans for the manufacture of ele-ctronic teleprinters in the next phase spread over five years. The laboratory model of the electronic teleprinter has been developed by the Research and Development Wing of the Compnay.

The Company at present is manufactur-ng electro-mechanical teleprinters. During the last few years, most of the manufacturers of teleprinters elsewhere n the world switched over to the manu-facture of electronic teleprinters which has several advantages over the electro-mechanical teleprinters. They are more eliable in operation, their operating osts are less and even the initial cost may be less when production is taken up in large numbers.

Electronic teleprinters are also highly versatile in operation since the same basic machine can be used for any langauage script and also they can be used as a data terminal for computer systems in addition to being used as a teleprinter.

At present all the items of peripheral equipment used in computers are being imported. There is a large scope for import substitution in this field.

The Company has already developed two items of computer peripherals, viz. high speed tape reader and high speed tape punch, out of its own R and D efforts. A few other computer peripheral equipment are in various stages of development.

Since teleprinters and ancillary equipment form part of professional communication equipment, the demands on the Company will be conditioned to a large extent by the resources and expansion plans of the various users, the majority of whom in India are Government departments and organisations. Hindustan Teleprinters will constantly strive to improve on the designs and to incorporate new facilities to make their products applicable to a wider field of customers. Modifications of designs are being undertaken even in cases where the quantitative requirements are small.

Incentives for Mini Cement Plants

The Government have decided to give several incentives to entrapreneurs to encourage them to set up mini cement plants in the country.

The capacity for amini cement plant, it has been decided, will be limited, to 200 tonnes per day or 66,000 tonnes per annum and the choice of technology to be utilised in setting up the plant would be left to the entrepreneur.

In addition to the units which may be set up by the entrepreneurs in the private sector or by the State Governments in the joint sector, the Cement Corporation of India would also enter the field to set up mini cement plants as promotional efforts.

The ex-works price of cement produced by the mini cement plants, it has been decided, would be the same as the price admissible to new large sized plants, viz., Rs. 296 per tonne. This price will be assured for a period of five years from the date of the plant going into commercial production.

The mini cement plants will be allowed also a rebate in the payment of excise duty upto 50 percent for a period of five years.

While mini cement plants will be subject to price control under the Cement Control order and shall not sell cement at a price higher than the controlled price, they will be exempt from distribution control under the Cement Control Order 1967. The mini cement plants will bear their own distribution costs and will not be required to adjust the freight element with the Cement Regulation Account. The other elements in the F.O.B. destination price of cement will, however be subject to adjustment with the Cement Regulation Account as per the existing provisions.

The mini cement plants set up in hilly and remote areas will be eligible for additional exicise duty relief and/or cash subsidy on merit.

The plants will also be eligible for all other existing incentives and facilities available under the Income Tax Act

and/or under other schemes offered by the State Governments.

Large houses and foreign majority companies, however, will not be allowed to set up mini cement plants.

Establishment of a large number of mini cement plants as a measure to achieve a rapid increase in production of cement has been under consideration of the Government. Mini cement plants are expected to result in exploitation of smaller limestone deposits, dispersal of cement production capacity all over the country, reduction of burden on railway transportation, lower capital cost and quicker installation, and higher employment, especially in rural, hilly and other inaccessible areas.

Government had set up two Working Groups to make suitable recommendations regarding the choice of technology as well as provision for fiscal incentives to attract large number of entrepreneurs to the field. The decisions now announced have been taken after considering the reports of these Groups.

The Government hopes that with the present announcement of an attractive price as well as liberal incentives, entrepreneurs will come forward to set up speedily as many mini cement plants as possible on a widely dispersed basis in the country.

Hindustan Shipyard Makes Headway

The Hindustan Shipyard, a public sector undertaking, made a net profit of Rs. 36.27 million during 1977-78 as against Rs. 28.03 million during 1976-77. This was stated at the 26th annual general meeting of the Hindustan Shipyard by the Chairman and Managing Director, Mr. S. Anandaram recently in New Delhi. The Shipyard is declaring a dividend of 6 percent, amounting to Rs. 11.01 million on the paid-up share capital.

The Chairman said the Shipyard has so far built and delivered 76 vessels, covering a wide range from ocean going-cargo liners to all types of specialised crafts, including sophisticated naval survey vessel, a modern training ship and two off-shore supply-cum-crew vessels. He said that Hindustan Drydock had all the modern facilities and had been rendering sevice to the major Indian shipowners including the Indian Navy. Over 200 ships, both Indian and foreign, have been docked for repairs so far. Utilisation of docks, since, its inception in 1971, is 100 percent.

The Chairman said it is proposed to further develop the Yard at an estimated cost of Rs. 360 million with a view to doubling the production of pioneer class vessels. The Shipyard is currently providing training to over 550 technicians, engineers and commercial apprentices.

Streamlining Steel Supply to Small Units

Steel supplies to small industrial units is to be further stepped up and streamlined in the coming months of the current financial year. This was stated by Mr. Mantosh Sondhi, Union Secrestry of Steel and Mines, recently in New Delhi at a meeting of the representatives of the Small Scale Industries (SSI) Corporations and the Steel Authority of India Limited (SAIL). This will be on the basis of a detailed assesment by the SSI Corporations of the requirements of the small scale units.

The overall supply position was reviewed at the meeting. The Representatives of the Corporations confirmed that the steel being routed through them for distribution was being made available to the small units at Rs. 40 a tonne less than the stockyard price, following the decision taken earlier in the year. It was suggested that the future supplies be planned on the basis of realistic indications from the Corporations of the offtake in the coming months. The Secreatary said that the requirements would this year be fully met and urged the Corporations to cooperate in ensuring proper utilisation of the steel supplies to them. The scope for misutilisation should be minimised.

It was decided that a uniform distribution policy would be followed, taking into account also the varied local conditions and every effort would be made to avoid duplication in supplies between the stockyards and the Corporations to the small units. On the basis of requirements spelt out at the meeting, allocation to some Corporations would be increased. Apart from the SSI Corporations and SAIL, the meeting was attended also by the representatives of the Association of Indian Engineering Industries (AIEI) and the Iron and Steel Controller.

Format of Company's Balance Sheet

Hereafter the balance sheet of a company will be either in horizontal form or vertical form giving minutes of details of the sources of funds at the end of a financial year.

A notification issued by the Department of Company Affairs under sub-Section (1) of section 641 of the Companies Act making alterations in Part I of Schedule VI of the Act, clarifies that the sources of funds of a company, mentioned in balance sheet, will relate to: (1) shareholders' funds in terms of capital, reserves and surplus (2) loan funds in terms of secured loans and unsecured loans, (3) application of funds relating to fixed assets in terms of gross

ck, less depreciation, net block and pital work in progress, (4) investments d (5) current assets, loans and advan- in terms of inventories, sundry deb- s, cash and bank balances, other cur- nt assets, loans and advances. Minus rrent liabilities and provisions, net rrent assets giving a detail of miscell- eous expenditure to the extent not wri- n off or adjusted, profit and loss acco- t will complete formality of balance eet. Figures relating to each item of e account as at the end of current ancial year and figures as at the end previous financial year will have to be entioned in the balance sheet of a mpany.

etails under each of the items will be ven in separate Schedules. The Schedu- will incorporate all the information quired to be given under Part IA the Schedule VI read with Notes ntaining general instructions for pre- ration of balance sheet.

ne Schedules accounting policies and planatory notes that may be attached, ll form an integral part of the balance eet and rounded off to the nearest 00" or "00" as may be convenient may be expressed in terms of decimals thousands.

foot-note to the balance sheet will ve to be added to show separately ntingent liabilities.

ntegrated Dairy evelopment

integrated cattle-cum-dairy develop- ent project with IDA and World nk assistance in 23 districts has been ken up in Karnataka, Madhya Pradesh d Rajasthan. The proposed outlay r the project is Rs. 1174 million. Dairy velopment Corporations have been up in all these states to implement e project. In all, 4800 milk producers, operative societies are being organis- ed on "Anand Pattern" under this project.

Dairy development has been assigned an important role in increasing direct and indirect employment both in urban and rural areas. The development programmes based on a system of producers cooperatives are expected to bring about a rapid socio-economic improvement in the rural areas, particularly in the lives of the rural poor. There is now a growing awareness of the role that dairying can play in the integrated rural development.

Substantial progress has been made in the field of organised collection, processing and distribution of milk and 186 dairy plants are now in operation in public and cooperative secotrs in the country. A number of milk products manufacturing units have also come up in the private sector.

Phase I of "Operation Flood" a name given to the dairy development and milk marketing project, which was launched in 1970 succeeded in creating a viable base for dairy development. It envisaged a gift supply of 126,000 tonnes of skim milk powder and 42,000 tonnes of butter oil by World Food Programme over a period of 9 years ending in June 1979. Funds generated by the sale of these commodities are being utilised for expanding the processing and marketing capacity in 4 metropolitan cities from 1 million litres to 2.75 million litres per day, and for setting up rural feeder balancing dairies and also for implementing milk production enhancement programmes.

As a continuous process to Operation Flood (Phase I), Operation Flood (Phase II) has been taken up at an estimated cost of Rs. 4855 million to consolidate and further build on the foundation created by Phase I. The programme would benefit 10 million rural milk producers families; rear 15 million cross-bred cows and upgraded buffialoes; cover four netropolitan cities, 144 towns with a population of over 0.1 million each and 25 milk sheds areas covering 155 districts. It will also provide the necessary infrastructure to support a viable national dairy industry.

Phase II will cover Assam, Meghalaya, Sikkim, Orissa, Jammu and Kashmir, Himachal Pradesh and Kerala, which were not covered under Phase I.

Facilities for dairy education have also been enlarged and are being further strengthened. Diploma/degree and post-graduate training is being imparted at the National Dairy Research Institute its four regional stations and agricultural institutions. Training facilities have also been provided to neighbouring developing countries.

Along with the development of dairy industry, Government has tried to promote indigenous capacity for manufacture of dairy equipment. A number of firms have been given licences to manufacture a wide range of plant and machinery. At present, almost all items of dairy equipment, except certain specialised and sophisticated types are being manufactured in the country.

In-built Stability of Indian Agriculture

Agriculture in India has been slowly gaining stability during recent years. Production of two major cereals, rice and wheat has generally been steady. For example, rice prodution in Andhra Pradesh, despite severe cyclone in 1977, was higher than the provious year. The country is now less vulnerable to a great drop in food output, as compared

to 1966 and 1972, when severe drought affected considerable area.

The main reasons for improvement in stability of production are : (a) larger area under irrigation (b) possibility of multiple cropping that can help in compensatory programmes for offsetting the less occurring one season; for example , West Bengal has launched a much larger rabi-boro production programme to compensate for the loss due to floods in Kharif season; (c) increased use of inputs like fertilizer, pesticide and good seed; (d possibility of introducing alternative cropping strategies and contingency plans according to weather conditions which has become possible due to the development of short duration and quick-yielding strains in several crops; and (e) growing knowledge of water-harvesting and crop life-saving irrigation techniques and the introduction of improved farming practices under the DAP and other programmes.

The two major causes of instability in prcduotion had been unfavourable weather and the incidence of posts and diseases. The vastly expanded irrigation programmes and the intensive research and developmental efferts now being undertaken in rainfed areas are helping in minimising the adverse impact of aberrant weather on food output. Suitable corrpping strategies are also being developed for chronically flood-prone areas, in order to make the floodfree season as the main agricultural season.

National posts surveillance and control measures are also being strengthened. Besides this seed reserves are to be built up as to enable the implementation of contingency plans during unfavourable weather. Agro-meteorological research is also being strengthened.

A remunerative pricing policy under which farmers are being given incentives for producing foodgrains, encompasses achieving stability in production.

National Food Security System is being built up along with increase in terrestrial and aquatic productivity.

National Afforestation Plan

The National Forest Policy 1952 is under revision and suitable safeguards for checking deforestation of forest areas and diversification of forestry lands to non-forestry uses are being incorporated in the new National Forest Policy. Suitable amendments to enforece these provisions are also likely to be made in the revised Indian Forestry Act which is also under revision. Suitable guidelines have been issued to the States to properly scrutinise all cases involving deforestation and attempts are to be simulataneously made by them to compensate for this loss of forest land by reforestation. This was stated in Rajya Sabha recently by the Union Minister for Agriculture and Irrigation. Mr. Surjit Singh Barnala.

The Minister said that outlay for social forestry schemes (central assistance) for 1978-79 is Rs. 159 million as against Rs. 73.7 million in 1977-78 and Rs. 16.3 million in 1976-77. The integrated Soil and water conservation scheme was started last year with an outlay of Rs 3.6 million. The current year's outlay for this scheme is Rs. 25 million, The allocations under these programmes are being gradually increased during the coming years.

The Minister further said that during Fifth Plan, two centrally sponsored schemes under social forestry were launched. These were : (i) mixed plantations of waste lands, community lands and (ii) reforestation of degraded forests and raising of shelter bel and another centrally sponsored schen for integrated soil and water conser ation in the Himalayan region. Th social forestry schemes are designed raise mixed plantation of waste land village common lands, community lan and to replant degraded forests an raising shelter belts. The objective the integrated soil and water conse vation schemes in the Himalayan regic is to increase the production from marg nal lands through cultivation of tre for fuel, fodder and fruits and also t improve grassland in aid of the rura economy. These schemes offer grea scope for employment to unskille labour in rural areas.

Science and Technology

Oil Well-Cement Additive

For exploration of petroleum, hole are drilled inside the earth, th depth of which under certain cir cumstances may go upto 20,000 ft During the drilling, a flow of muc suspension is poured from the surface to lubricate the drill-bit, to give support to the drilling well from collapsing, to remove the cuttings, and to prevent any gas or oil coming out of the strata. During the drilling operation, it is essential to cement the porous formations as well as the casing in order to stabilize the hole drilled. This cementation is continued step by step with the ultimate depth is reached.

During the cementation, it is important that the cement should displace the mud in the annulus outside the pipe or casting as completely as possible, and form good bonding both with the formation as well as with the casing. Unless this happens, channels of mud are left behind

ading to defective cementation. In ase of unsatisfactory cementing, it is ecessary to do squeeze cementing, which involves forcing a cement slurry having low discosity through the perforations made in the casing and column of the hardened cement nto the channels or in the formation rom where oil or water or gas flows nto the-oil bearing formation.

The most effective way of ensuring good cementation in the annulus is to ensure turbulence in the cement slurry at the time of its placement. In order to ahieve this, it is necessary, that the slurry must retain its fluidity, i.e. it must not loose its water rapidly into the formation. When there is rapid loss of water from cement slurry, flash or premature setting of cement may take place leading to defective cementation. In the case of deep drilling and in high temperature oil wells, the possibility of defective cementation may be more, unless the cement slurry can retain the water in conditions of accelerated pressures and temperatures.

For good cementation, an ideal cement slurry should possess the following characteristics; low viscosity, low filtration loss, setting and hardening time to suit operation, and good strength after setting and hardening.

To achieve the desired rheological properties as mentioned above, the cement water slurry should contain an additive formulation which when incorporated, will produce the desired effect.

In recent years, intensive exploration of oil in the country is in progress both by Oil India Limited and Oil and Natural Gas Commission. At present the country imports oil well cement additives such as Halad-9 for cementation of the oil wells at the cost of a substantial amount in foreign exchange. It may be mentioned that the type of additive to be employed for cementations purposes also depends on the geological conditions of the oil walls. In order to develop an indigenous oil well cement additive tailored to the geological conditions of the oil wells, RRL Jorhat undertook research and developmental work at the instance of M/s. Oil India Limited, Duliajan. The effort of the Laboratory during the last few years resulted in the development of the correct oil-well cement additive which can substitute the imported additive. M/s. Oil India Limited extended facilities by way of testing the additive samples during developmental stage and confirmed suitability of the developed product for OIL needs.

The additive developed in this Laboratory is entirely prepared out of indigenous raw materials.

M/s. Hico Products Private Limited, Bombay and M/s. Dai-Ichi Karkaria, Pune have obtained licences for commercialisation of the RRLJ product. M/s. Hico Products Private Limited have already commenced manufacture of the additive and supply to Oil India Limited. The samples conform to API testing schedule '7' for thickening time.

Oil and Natural Gas Commission both in the eastern and western sectors including offshore drilling, is currently meeting its cement additive requirement through import. It is hoped that the RRLJ product now marketed by HICO would find acceptance and application of ONGC needs also and thus reduce dependence on imported additives.

National Information System for Science and Technology

The National Information System for Science and Technology (NISSAT) is being created to coordinate and integrate the existing and future scientific and technical information sources, systems and services into an organised and effective network. Realising the importance of scientific information in the social and economic development of the nation, the Government approved in May 1977, the scheme for setting up NISSAT under the Department of Science and Technology. The National Committee on Science and Technology had recommended the formation of such a network in the Sicence and Technology Plan (1974-79).

NISSAT will identify and fill up the existing gaps in technical information in cooperation with different scientific and technical agencies and suggest measures to avoid duplication of efforts. It will evolve national standards and guidelines for information handling. NISSAT will ensure that at least one accessible copyof every scientific publication is available in the country and has quick access to scientists technologist and policy makers. Training courses will be conducted for information scientists. Coordination with international information system will also be maintained.

The structure of NISSAT consists of the National Focal Point (NFP) in the Department of Science and Technology and the NISSAT network. In the NISSAT network, there will be sectoral Centres (SOs) and their Local Information Units (LIUs) and; the Regional Centres (RCs) and other specialist supporting services (SCs). The SCs are based on products, disciplines and missions. These cover industrial,

agricultural, medical and defence research, atomic energy electronics, patents and universities, these will be responsible for collection, documentation, analysis and dissemination of information in their assigned sectors. These will also coordinate the LIUS in their sectors.

The regional information centres will act as NISSAT contact points at major geographical areas of S and T activities in the country for acquisition of information available in the regions and for dissemination of the information in the NISSAT network to the users. The specialised supporting services will consist of services like computerised selective documentation of Information (SDI) using commercial data bases, on-line access to world data bases, indigenous S and T data bases and data banks on factual data, central facility for document supply, referral services like union catalogues and various directories. The NISSAT scheme also has programmes for manpower development, user development and information promotion. Training courses in information sciences and seminars, symposia and workshops are organised. R and D projects on Information science and technology are supported under the scheme. NISSAT maintains liasion and coordination with international agencies like UNESCO and FAO, besides organising bilateral programmes with other countries.

Four sectoral centres have started functioning. These are on Leather technology at Central Leather Research Institute, Madras ; on drugs and pharmaceuticals at Central Drugs Research Institute, Lucknow ; on food Technology at Central Food Technological Research Institute at Mysore and ; on machine tools at Central Machine Tools Institute at Bangalore.

The regional centres of NISSAT are being organised with the collaboration of the Indian National Scientific Documentation Centre (INSDOC), New Delhi. The Regional Centre of INSDOC at Bangalore will be utilised to provide regional services in that area. In addition, the work on starting of three more regional centres (at the Indian Institute of Technology (IIT), Bombay, at the Indian Institute of Experimental Medicines (IIEM), Jadhavpur, Calcutta and at Central Leather Research Institute, Madras) is in progress.

The NISSAT has sponosred a project for the complilation of a Directory of National Testing Facilities. The Directory will help industries and entrepreneurs in locating suitable facilities for testing of their products.

A working group has been set up to evolve the plan of action for building up information resources and provision of services for small scale and rural industries. The working group will review the existing information on resources and services available with the different research laboratories and find out the information gaps and evolve mechanism for building up information back-up for provision of services.

CCC-Plant Growth Regulant

Plant growth regulant (PGR) of hormones are a class or organic compounds other than the plant nutrients which in small amounts promote, inhibit or otherwise modify any physiological process in plants. Apart from fertilizers and plant protection chemicals, these growth regulants play a very important role in the development of agriculture and horticulture. Of the several indegenous and synthetic gr regulants chloro choline chlo (CCC), indole acetic acid, gibberr acid, ethephon are finding comme use in India.

In view of meeting the increas demand of PGR in the country, Regional Research Laboratory (RL Jorhat has worked out the proc know-how for the manufacture chlore choline chloride or 2-chloroet trimethyl ammonium cloride un the sponsorship of M/s. Vividh Ph maceuticals Pvt. Ltd., Bombay.

CCC occupies a unique position as PGR owing to its capability of maki the plants sturidier and smaller resulti in effective resistance to wind ar consequent lodging. It increases th yield and makes the plants resistar to certain insects and pests, draugh and frost and variation in temperature It also prevents transpiration an water loss from the plants. Th imported price of this chemical i about Rs. 25,000 per tonne an the consumption of the technica product has been estimated at 3(tonnes for 1973 and 50 tonnes for 1978-79.

The work on CCC was initiated in this Laboratory during the early part of 1975. Extensive investigations carried out both in laboratory and pilot plant scale resulted in the development of a commercially viable technology. The know-how package as a developed is based on the successful R and D investigations conducted on pilot plant scale and provides an adequate coverage of various important aspects of the process. The process developed is simple and should prove commercially viable.

Review of Indian Economy

ording to BRI's report on currency finance (1977-78) the principal nomic indicators for the period July 7 to June 1978 exhibited in the regate a further enlargement of ments favourable to output expan-n. The rate of growth in real tional income showed a fairly im-ssive increase over the previous ar. Food situation remained com-table and foreign exchange reserves ntinued to grow. Though money ply increased substantially for the ond successive year, the price level nained relatively stable, principally cause of the easier supply position basic consumer goods.

e growth of 6 percent in real national come during the year was not only ich higher than the rate 1.6 percent corded in the previous year, but so exceeded the average pace of owth in the past decade. The erage growth rate was 3.2 percent r the period 1965-66 to 1976-77 d slightly lower at 2.7 percent for e six years 1970-71 to 1976-77. The owth attained during the year was us better than the annual average te of about 5 percent envisaged in e draft Plan.

utput of foodgrains during the year ached a new high at 126 million nnes—an improvement of 5 million nnes over the earlier peak touched o years ago. Several cash crops—garcane, tea, coffee and cotton—so recorded a substantial improve-ent in production levels. The larger e of fertilisers during the year no ubt contributed to the increase in ricultrual output. The offtake of tilisers rose by 23 percent in 1977-78; ir use was also presumably more effective because of a better balance in composition, with a pronounced increase in the consumption of phosphatic fertilisers, in contrast to the earlier reliance on nitrogenous fertilisers.

The spread-effect of good agricultural production was felt to some extent in industry, especially in the sugar industry, the output of which rose to an all-time record level. A consequential development is also worth noting ; the subgroup "sugar, gur and khandsari" made a significant contribution to the reduction over the year in the wholesale price index. Electricity generation in the period December 1977 to June 1978 improved by 10.4 percent over the preceding five months, as against a rise of only 5.2 percent.

The outflow of resources reflects a surplus in the current account in the balance of payments, adjusted for certain items. This surplus, while contributing to the accumulation of country's foreign exchange reserves, is not equivalent to the annual addition to the reserves, which cover other components as well. The increase in reserves over the year as a whole was Rs. 1180 million more than in the previous year.

The sharp decline in reserve growth follows from the slackening in the growth of exports and the sharp increase in imports. The growth in exports during 1977-78 (financial year) is placed at only 4.5 percent. This was sharply down from the growth of 27.3 percent in the preceding year but has to be viewed in the context of the growth of barely 4 percent in the volume of world exports in 1977. Some of the developments contributing to the lower growth of India's exports in 1977-78 such as the regulation of exports of a few commodities such as fresh vegetables and tea in the interest of domestic price stability, could be considered transitory. The setback in the export of a commodity like cashew kernels because of difficulties in obtaining raw material can also be expected to be overcome. But there are more fundamental factors such as the poor growth in the volume of world trade and the growing protectionist sentiments abroad—both reflecting largely the recessionary conditions in major industrial economies—which would continue to adversely affect India's exports. At the same time, the prospect in respect of non-merchandise receipts, which have contributed substantially to the growth in reserves in recent years, is somewhat mixed. While the increase in receipts from travel, transportation, investment and technical services may be sustained, the remittances from Indians abroad for family maintenance may have already begun to level off, since the emigration of Indians for employment overseas, especially to the Middle East, is now probably past its peak.

Simultaneously, there has been a marked uptrend in imports, following the liberalisation measures. For the year as a whole, imports registered an increase of 19.6 percent, while they had declined by 3.6 percent in the previous year. This spurt in imports was undoubtedly influenced by the pent-up demand for a variety of industrial inputs, the imports of which were facilitated by the relaxation of controls. After meeting such demand, industrial imports may not continue to increase at the same pace. However, as the

policy of liberalisation is extended and its effects take hold, imports may be expected to continue to rise.

The level of India's foreign exchange reserves, at just over Rs. 45,000 million at the end of June 1978, appeared comfortable, especially in contrast with the reserve levels upto 1976. In considerable measure, this position has followed from the fact that agricultrual production in the past few years has obviated the need for large-scale imports of food. Nonetheless, a predominantly agricultrual economy has to be prepared for the consequences of sharp fluctuations in domestic output as well as in the availability of agricultrual commodities. Further, unlike the industrial nations, India lacks access to "secondary" reserves such as swap lines of credit and large-scale borrowings in private international capital markets. Seen in this light, the country's foreign exchange reserves cannot be considered as abundant. The recent developments in the quantum of export and import trade and in the pace of reserve accretion underline the need not to be complacent about the external payments position.

In regard to food reserves, there is need for a rapid turnover because of the possiblity of deterioration and waste and the problems of storage. Further, the accumulation of food stocks beyond minimal buffer stock requirements respresents the loss of an opportunity of deploying a resource of development. The new development strategy, spelt out in the Five-Year Plan, places emphasis on economic decentralisation with a bias towards rural and small-scale sectors. Excess food reserves can be utilised effectively towards the strengthening of these sectors. The limited operation of the Food for Work Programme initiated during the year marks only a beginning in this direction. A widespread and successfful implementation of such a programme requires a massive organisational effort. At present even the spread of the food distribution network is limited and urban biased. Institutional regidities, which cannot be easily overcome especially in the short run, may prove a major handicap at the present stage of planned development.

Various policies adopted during the year were directed towards an improvement of the investment climate. Industrial licensing requirements have been relaxed, imports liberalised, and a revival of the new issues market sought through tax benefits for investment in new capital issues. A lowering of the interest rates structure has brought down the cost of credit. However, it is only as the public sector investment outlays proposed under the Plan gain momentum and their spread-effect is established the economy would be fully r from its present state of sluggish. Even as the tempo of investi activity picks up, certain infrastruct inadequancies, already evident, likely to prove more acute. position in regard to power generat is an example. The problem industrial sickness, which has b growing in dimension and seriousn suggests some basic imbalances wit the industrial sector which wo require attention.

Price situation during the year v generally satisfactory, with a decli of 2.1 percent in the wholesale pri index over the period end-June 19 to end-June 1978. In the correspo ding previous year, the index ha risen by 8.6 percent. This decli was brought about largely by th comfortable position in regard availability of several sensitive comm dities through effective managemer of supplies. Imports of commoditie in short supply like vegetable oils regulation of exports of some item and relaxation of restrictions on interna movement of foodgrains were the measures taken to this end. Further extension of this improvement and stabilisation in prices are imperative. While increasing investment and other developmental outlays, it will remain necessary to maintain overall monetary restraint. □

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economic and commercial news

News Highlights

President's Call for Unity of Purpose and Action

In a message broadcast on the eve of Republic Day, the President Mr. Neelam Sanjiva Reddy said that India which was producing 55 million tonnes of foodgrains in 1950, had now reached a level of over 125 million tonnes. Because of the record output of foodgrains and industrial raw materials, the country was able to achieve a measure of price stability and contain inflation, he added. Cautioning against complacency, the President said that in the coming years, agriculture would have to be placed on sounder and more viable base. Underlining the need to plan for massive growth of agro-based small and cottage industries, he held that without rural industries, agriculture could not prosper. He declared that it should not be forgotten that India would prosper only if the tiller of the soil lived and prospered. The President exhorted the nation to bend all its engergies towards the achievement of goals that it had set before itself. In unity and action lay its strength, he said.

(*Contd. on page* 2)

Export Performance and Potential

India–Malaysia Agreement on Economic Cooperation

The Prime Minister of India, Mr. Morarji Desai, and Mr. Dato' Hussein Bin On, Prime Minister of Malaysia, concluded an Agreement on Economic and Technical Cooperation between India and Malaysia recently.

The Economic and Technical Cooperation Agreement provides for a broad framework to encourage and enhance the already existing cooperation between India and Malaysia in the fields of industry, science and technology, agriculture, etc. Under this umbrella Agreement, individual agreements dealing with specific fields will be entered into. The Agreement contemplates the setting up of a Joint Committee to oversee the implementation of the Agreement and to consider ways and means of promoting economic and technical cooperation between the respective countries. The Agreement is a landmark in the development of the present cooperative and mutually beneficial relationship between India and Malaysia.

The Union Minister of External Affairs, Mr. Atal Bihari Vajpayee and Foreign Minister of Malaysia Mr. Tengku Ahmad Rithauddeen signed and exchanged letters to cover extradition arragnements between the two countries. The Extradition Arrangement provides for extradition of fugitive criminals from the territory of one country to another in accordance with their respective extradition laws. The Arrangement excludes extradition of political offenders.

In a joint statement the two Prime Ministers expressed that these meetings had contributed towards strengthening their mutual understanding. They expressed satisfaction at the already wide range of co-operation between

Indo-Malysia Economic Cooperation

India and Malaysia have recently signed an Agreement on Economic and Technical Cooperation. This Agreement provides for a broad framework to encourage and augment the already existing co-operation between the two countries in the fields of industry, agriculture, science and technology. Under this Agreement, individual agreements dealing with specific fields will be entered into. The Agreement envisages the setting up of a Joint Committee to oversee the implementation of the Agreement and to devise ways and means for promoting bilateral economic cooperation.

Promoting Indo-Nepal Cooperation

Mr. Mohan Dharia the, Union Minister of Commerce, Civil Supplies and Co-operation and Mr. Sribadhra Sharma, Nepal's Minister of State for Commerce and Industry recently exchanged views about commerce and industry. India offered full cooperation for promoting trade and industrial cooperation in order to further cement the existing economic ties.

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the two countries which would be extended further as a result of this vis Welcoming the signing of the Economic and Technical Co-operati Agreement, the two Prime Ministers expressed their confidence that th consultative machinery provided by the Agreement will further step u their co-operative efforts and enlarge the areas of their mutual co-operatio and share their skills and know-how, for their own development.

The Prime Minister of Malaysia apprised the Prime Minister of Indi of the latest developments in ASEAN in the promotion of regional economi growth, social progress and cultural development. The Prime Minister of India reaffirmed India's support for ASEAN and reiterated his country's desire to establish co-operation with it. The two Prime Ministers stressed the need for co-operation among States in South and Southeast Asia. They also were of the view that intra-regional economic co-operation would contribute towards greater stability of the region and resilience of the countries of the region.

Indo-Nepal Economic Cooperation

Mr. Sribadhra Sharma, Minister of State for Commerce and Industry, Nepal, called on Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation.

The two leaders exchanged views on matters concerning commerce and industry between the two countries. India offered Nepal full cooperation in furthering trade and industrial cooperation so as to further strengthen friendly relations existing between them.

India's trade with Nepal is regulated by the Indo-Nepal Treaties of trade, of transit and agreement for cooperation to control unauthroised trade, 1978. These treaties were signed on March 17, 1978.

It may be mentioned that a new chapter of close partnership between the two countries has already been opened in respect of joint projects covering large and medium scale, cottage and agro-industrial sectors with the signing of a Memorandum of Understanding. This Memorandum incoporates the new dimensions of bilateral economic and industrial relations.

Mr. Sharma, also met the Union Minister of Railways, Prof. Madhu Dandavate recently in New Delhi and discussed the progress of the survey being carried out for railway lines in Nepal. The Railway Minister explained that a preliminary report on the investigations bringing out the approximate cost of different alternatives to the cement plant sites have been made out and when a decision is taken on the most acceptable alternative, a preliminary survey for the route will be undertaken by the Rail India Technical and Economic Services Limited (RITES).

The sites considered for the cement plant in Nepal are Govindpur, Lakshmipur, Gaighat and Betar; the railway terminals in India to which they could be connected will be Jayanagar, Lukaha and Nirma. The Minister of Railways assured that every endeavour will be made to expedite this work.

Strengthening Indo-Algeria Economic Relations

According to an economic and commercial report for the month of December 1978 from the Embassy of India, Algiers, the Engineering India Ltd. (EIL) has initialled two contracts with Sonatrach. The contracts are for planning, scheduling, cost and financial control of a 42in. and a 24in. gas pipeline.

jects from Hassi Rmel to Arzew, stance of 510 kilometres. The value he each contract is of the order of 2 million. Another trial order has n won by Kirloskar Oil Engines m SONELEC for 29 generating of a value of approximately Rs. 7 million. The Hindustan Machine ols (HMT) have also signed a plementary contract to the $12.5 lion contract concluded by them h Sonelgaz for water and gas meters April 1978. The additional value of supplementary contract is about 75 million.

number of delegations from India ve recently visited Algeria to further ateral economic cooperation. They cussed various proposals with Alger- authorities. The subject of discuss- relates to negotiation of contract technical cooperation within the mework of SNIC's chemico-armaceutical projects.

th a view to further promoting aterial economic cooperation, a mber of delegations visited Algeria ently to discuss collaboration regard- refractory plant with SNS, to gotiate contract for technical cooper- on within framework of SNIC's che- co-pharmaceutic projects, to discuss pply of three wheelers for goods trans- rt with SONACOME, to negotiate ntract for supply of micro buses with ONACOME to discuss cooperation tween two air lines with Air Algerie, rvey conditions for making offer for nstruction 40 k.m. road between ndouam and Lakhdaria with Mini- y of Public Works, and to discuss lateral cooperation between Air dia and Air Algerie.

sides, a number of offers have been ade by Indian companies for further- economic ties. These offers pertain construction of 4000 houses by HSCL to DNC, revised offer for supply of bulbs and fluoroscent tubes by STC to SONA CAT and also 76,000 sewing machines by STC to SONACOME, and henna powder (3100 tonnes) Carvi seeds (450 tonnes) 100,000 tonnes of sugar and 200 tonnes of green tea per month by STC to ONA-CO and iron safes by PEC to Ministry of PTT.

It may be mentioned that a Memorndum of Understanding has already been signed by India and Algeria, which covers commercial relations, economic and industrial cooperation and sharing of technical know-how. Further, a Trade Agreement between the countries provides for a framework for increasing commercial exchanges. Both sides have since identified commodities which they can purchase from each other. Drafts have also been exchanged by the two countries for a technical and scientific cooperation agreement.

Promoting Indo-Indonesia Telecom Cooperation

India and Indonesia have signed a formal "Memorandum of Understanding" (MOU) to coordinate the satisfactory use of INSAT 1A and PALAPA domestic satellite systems. This formal agreement in effect completes the process of international coordination of INSAT 1A network in accordance with the regulatory procedures of the International Telecommunication Union (ITU).

The MOU was signed at Jakarta recently by Mr. J.A. Dave, Union Secretary, Ministry of Communications, on behalf of India and Dr. Suryadi, Director General of Indonesian Posts and Telecommunications on behalf of Indonesia.

The team lead by the Communication Secretary which included the Wireless Adviser to the Government of India and senior engineers from the Department of Space and P and T Department held discussions with the Indonesian telecommunication authorities on problems of orbit-frequency coordination between INSAT and PALAPA domestic satellite systems and allied matters of matual interest. During the discussion all pending technical problems concerning the compatibility of both the satellite systems from the point of mutual radio frequency interference effects were successfully resolved.

Coordination efforts in respect of Indonesia's PALAPA system have been under way for over eighteen months. The visit of the Indian team to Jakarta was, among other things, aimed at obtaining final agreement of Indonesia to 74° E location for INSAT 1A.

The first satellite, INSAT 1A, for the multi-purpose Indian domestic system is programmed for launch in early 1981. The satellite, together with the associated ground segment, will offer supplementary trunk telecommunication services including remote areas, and nation-wide television broadcasting and meteorological services. The 74°E longitude location in the geo-stationary orbit 36,000 Kms. above the equator, was decided upon for INSAT 1A. This was decided after considerable efforts for coordination with satellite systems of the Administration of USSR and INTELSAT.

The MOU also reflects the agreement reached between the two sides concerning the location of an active spare satellite, INSAT 1B by India at 94°E orbit position and 3 new satellites, PALAPA 3, 4 and 5 by Indonesia in the orbit arc 108 to 118°E. The way is now clear for embarking on further

international coordination processes in regard to these satellites, which are planned to become operational in 1983.

Possibilities for mutual cooperation between the two countries in the field of telecommunication, with special reference to applications of communication satellite technology to domestic services were also considered during the Jakarta discussions. Both sides have agreed that as the first two countries of the developing world to embark on domestic communication satellite systems, there is considerable scope for exchange of views and expertise in the light of experience gained on the respective systems, for mutual benefit.

The discussions also identified the need and desirability of evolving common approaches by the two countries at the World Administrative Radio Conference (WARC) to be held in Geneva from September 1979 for a general review/ revision of the International Radio Regulations including the table of frequency allocation, with special reference to the question of equitable exploitation of the geo-stationary orbit resource, in which both countries have vital and increasing interests.

Indo-FAO Cooperation Agreement

A Technical Co-operation Agreement between India and UN Food and Agriculture Organisation (FAO) for a financial assistance of US $ 150,000 for supply of vegetable seeds and seedlings to farmers in flood affected areas was signed recently in New Delhi.

Dr. M.S. Swaminathan, Secretary, Department of Agricultural Research and Education and Director-General, Indian Council of Agricultural Research signed on behalf of the Government of India and Dr. A. S. Alwan on behalf of the FAO.

Under the Agreement seeds of improved vegetable varieties and seedlings for planting vegetables in about 5000 hectares in Delhi, Uttar Pradesh, Bihar and West Bengal will be supplied to farmers.

FAO will procure vegetable seeds through the National Seeds Corporation and other supply sources in India and the Government of India will implement the project. The ICAR, in collaboration with the State Departments of Agriculture will take the responsibility of distribution of pesticides and raising of the seedlings.

FAO has already provided funds for the purchase of seeds and action has been initiated in this regard, and some quantities of seeds have been sent to the States. A suitable disease and pest survey, surveillance and control programme will also be initiated.

Furthering Indo-Japan Economic Cooperation

There has been a three-fold increase in the volume and value of Indo-Japan trade during last decade. Since the first joint meeting of the India-Japan Business Co-operation Committee held in 1967, the trade between the two nations has expanded quite remarkably in terms of both volume and value. In 1977, the export and import value, in total recorded a high level of approximately 1,300 million and they amounted to 1,250 million during the January-October period, of 1978.

India-Japan Business Cooperation Committee has been contributing in no small measure to the furthering of Indo-Japan economic cooperation. The 11th joint meeting of Committees was held in New Delhi recently. With the participation of the representatives from both countries a joint Statement was issued at the end of the meeting.

After reviewing the economic situation in India and Japan, the meeting considered how best India could make use of Japanese technology and equipment and explore ways and means to expand the two-way trade and business activities with third countries as also the desired kind of collabaration in the development of small scale industries in India. The question of Japanese investment in joint ventures in India came up for detailed discussion. In this connection, the Indian side emphasized the possibility of Japan entering into buy-back arrangements.

During the deliberations, it was noted that Japan was one of the major trading partners of India and, more recently, there has been collaborative effort on the part of Indian and Japanese enterprises to participate in a number of projects in third countries. However, Japan's investment was only about 2 percent of her total foreign investment in India. It was recognised that there were a number of new developments, some favourable and some others not-so favourable which had affected India and Japan as well as the world economy. The objective, it was agreed, should be to take advantage of the favourable elements and genuine effort be made by both the countries to mitigate the difficulties.

Recognising the important role played by the integrated trading Japanese houses in the fields of investment, technological cooperation, expansion of trade, and expansion of collaboration with third countries, it was agreed that

r functioning In India would be ful.

ing the useful work done by the nding Committee of the Joint Busi- Cooperation Committee in its t meeting in August 1978 in Tokyo, as proposed by the Indian side and epted by the Japanese side that the lowing issues discussed in the current eting be processed by the Standing mmittee with a view to evolving a gramme of action :

) reasons for the scanty interest on part of Japanese enterprises in invest- nt in joint ventures in India so as to lp take positive steps; (b) transfer Japanese technology and equip- nt on a mutually adventageous basis respect of new industries in India d existing industries in India. In is connection it was noted that the overnment of India, while following a lective policy, was favouring foreign llaborations beneficial to the national onomy ; (c) the areas where Japanese vestment based on buyback arrange- ents could be undertaken and; (d) role f Japanese Trading Houses in India relation to promoting India's exports Japan and third countries. It was greed that the meeting of the Stand- g Committee be held in Tokyo in pril or May 1979.

he joint Statement further notes the llaborative work that has already egun between India and Japan, orking as partners in third countries, articularly in South-East Asia, Middle- ast and Africa, should be carried for- ard. The present time was propitious ecause the complementarity of the apanese and Indian economies has be- ome clearly mainfest and opened up arger areas for mutual cooperation.

iews were expressed by both the dele- gations regarding the importance of iron ore trade between the two countries. In the light of its importance, it was confirmed that dialogues will be continued between the parties concerned in the future.

According to the Joint Statement, the two-way trade exchanges have not witnessed any significant change although marginal shifts have taken place with India supplying items like ready-made garments, home furnishing, costume jewellery, sophisticated machine tools, scientific instruments, etc. This shift is not commensurate with either the structural change in the Indian economy or the possibilities of Japan buying more of Indian manufactured goods. With the appreciation of yen, Indian goods, have become more competitive in the Japanese market notwithstanding the geographical distance between the two countries. The importance of India projecting her industrial image in Japan through buyer-seller meetings and the use of the existing Trade Centre was commended. The overall target must be to double the volume of two way trade in the next 3 or 4 years.

The Joint Statement has observed that the new industrial policy of the Government of India has placed considerable emphasis on the development of small industries and several measures have already been taken to promote their growth on wide basis. The methods by which small industries have come to achieve the place of prominence in Japan provided a very useful guide to India. Operational improvement of the existing small industries and establishing new ones with modern production techniques and proper marketing organisation could be secured with Japanese assistance. The Japanese side was requested to study the industries reserved for small scale sector in India and select those in which Japan has special expertise for collaborative effort keeping in mind the export potential.

The next Meeting of the Committe will take place in Japan in November 1979 on mutually convenient dates.

New Dimensions of Indo-German Cooperation

According to Indo-German Chamber of Commerce, (IGCC) economic co-operation between the two countries consists basically of trade relations, technical collaborations and official financial development assistance. The Chamber was established first in Bombay some 23 years ago and has offices in Calcutta, Madras, New Delhi, Bangalore and liaison office in Dusseldorf. The Chamber is concentrating its efforts on the promotion of bilateral trade flows and brings those companies from India and Germany together, which feel that they can benefit each other. IGCC renders individual, professional services to its members.

German financial assistance to India is a matter which is directly discussed between the two Governments of the two countries. The amount of German financial assistance to India in 1978-79 demonstrates the importance the Federal Republic of Germany lays on the continuation of economic co-operation with India. At the end of the negotiations which were held not too long ago in a very friendly atmoshpere of mutual trust in Bonn, West Germany, an agreement was signed, whereby Germany offers financial assistance for the Indian budgetary year 1978-79 upto an amount of DM 290 million (Rs. 1224 million). Further more, an agreement for DM 70 million (Rs. 295 million) in commodity aid had already been signed a little earlier this year, thus bringing the total German financial assistance to India

in 1978 to DM 360 million (Rs. 1519 million), the same sum as in the previous year. Moreover, an amount of approximately DM 20 million (Rs. 84 million) has been made available in 1978 for bilateral Indo-German technical co-operation projects.

In selecting projects for developing co-operation, it was agreed during the Indo-German Government negotiations that attention should be concentrated primarily on the following areas; further employment, basic needs rural development, irrigation, energy and improvement of utilisation of existing capacities in industry.

India's engineering products have a good export potential which is also evident from the very interesting orders placed with India's engineering industries recently. In 1978, for example, India received large export orders-each one above Rs. 10 million-for the following engineering commodities : textile mill machinery and spares, sugar mill machinery, industrial plants and machinery, electric machinery, transmission line towers, fabricated sheet structures, electric wires and cables, wagons, coaches and locos, coastal vessels and ships, automobiles, auto parts, sheel pipes and tubes, wire and wire products, industrial fasteners, forgings, diesel engines , pumps and compressors, batteries, ferrous rollow-ware, steel products and bright steel bars and shaftings.

At the end of the first part of 1978, India achieved foreign orders-each above Rs. 10 million-in the above mentioned fieldworth approximately US$ 1000 million. These figures clearly indicate that there is great scope for export contracts, particularly in India's engineering sector. Out of the 82 companies which obtained these orders worth about 1000 million US$-40 companies are located in the western region, 17 in the eastern region, out of which 14 are in Calcutta, 15 in the southern region and 10 in the northern region.

The number of Indian joint ventures with third countries is increasing significantly. After the first half of 1978, the Government of India had approved 329 proposals for joint ventures with foreign countries. Out of them alomst 100 are actively in existence and another 100 are about to go into implementation. These figures mark only the beginning of a new era of international co-operation, all the more since joint ventures were taken up only half a decade ago. The recent modifications of the guidelines for the promotion of India's participation in joint ventures is indeed encourging particularly for those of the engineering sector, which have today the capacity and the required capabilities to join hands with other nations for projects in third countries. India has no doubt the technological capabilities and competence and German companies, for example, are very willing to join hands with their Indian counterparts for the great number of projects all over the world. The favourable aspects in India's participation in joint ventures abroad are higher utilization of existing capacities, better foreign exchange earnings and greater employment opportunities in India.

Trade relations betwween India and Germany progressed in recent years significantly. In 1971, for example, only six years ago, the trade volume amounted to DM 902 million, whereas figure for 1977 year came up to DM 1930 million. A 100 percent increase of both-way trade volume within such a short span of time is quite notable. India's exports to Germany stood at DM 260.6 million in 1970 and DM 257 million in 1971 thereafter they progressively contin moving up to DM 285.4 millior 1972, DM 339.7 million in 1973, 1 418.4 million in 1974, DM 482.9 mil in 1975, DM 750.1 million in 1 and DM 786 million in 1977. Ind imports from Germany also sho steady upswing. They rose from I 571.2 million in 1970, DM 645.3 mill in 1971, DM 738.9 million in 19 DM 689.4 million in 1973, DM 8 million in 1974, DM 862.6 million 1975 , DM 922.1 million in 1976 a DM 1140.7 million in 1977.

Commodity-wise, the five main ite of exports from India in 1977 wer other garment and made-up goo of cotton (DM 154 million), wool a other animal hair material-mair carpets(DM 107million), oil cakes (D 54 million), leather (DM 50 millio and tea (DM 31 million).

India's main items of import were other machinery (DM 148 millio vegetable oils for human consumptio (DM 120 million), machine too clrolling mill equipment (DM 9 million), other finished chemical pr ducts (DM 94 million) and electr technical goods (DM 78 million).

India ranked sixth as a supplying natio to Germany after Japan, Hongkong Taiwan, South Korea and Malaysia. A far as German exports to East Asia a concerned, last year, India ranke fourth after Japan, Peoples Republic c China and Indonesia.

In the last five years the Federal Re public of Germany has ramked secon amongst the industiral nations colla borating with India, which is evider from the following figures :

(Contd. on page 8)

Exports of Major Items of Plastics and Linoleums

(Rs. million)

Items	1973—74	1974—75	1975—76	1976—77	1977—78
Plastic moulded and extruded goods	16.17	26.70	35.86	60	67.70
PVC pipes and specials	5.57	18.59	14.54	51.58	56.23
PVC gramophone records	9.18	10.55	14.42	19.69	26.82
HDPE woven sacks	11.06	14.65	7.36	12.49	15.13
Plastic electrical accessories	6.84	12.81	18.28	18.61	14.60
Plastic bangles	4.58	5.72	8.83	7.24	10.51
PVC sheetings	3.36	7.33	12.46	9.18	10.49
Polylined jute	4.40	2.46	4.79	3.52	10.26
Laminates (Phenolic melamine)	2.67	4.40	1.76	8.96	9.77
Spectacle frames	9.29	5.93	7.81	10.56	9.45
Linoleum jute based	5.81	7.85	15.49	15.99	8.76
Foam leather cloth and sheeting	1.64	2.75	3.52	1.80	3.48
Fountain pens, ball point pens, sign pens, fibre tip pens etc.	8.03	4.29	4.18	2.16	2.82
Glass fibe reinforced polysters and manufactures including helmets	0.34	0.12	0.72	1.62	2.71
Polythene films, sheets and bags	—	—	0.74	0.93	1.26
Grand Total (including those items also not mentioned above)	126.83	154.83	180.88	260.36	273.02

Number of industrial and financial collaborations

Country	1973	1974	1975	1976	1977	Total
USA	48	78	55	69	54	367
Federal Republic of Germany	60	71	59	60	55	354
UK	53	59	54	54	59	317

The majority of Indo-German joint ventutes are established in the western region, i.e. Bombay and Pune. Foreign technological collaborations are interlinked with industrial activities.

The Indo-German Chamber of Commerce has developed during past years a special assistance programme for all those Indian parties who are interested in locating a suitable German party for technological or financial collaboration.

Duty Concession for Tea Export

With a view to promoting exports of package tea, the Government of India has decided to grant rebate of excise duty paid on package tea which is exported in unit packs containing not more than one kilogram net of tea.

The rebate of excise duty (including special excise duty) would be 42 paise per kilogram in the case of packages containing not more than 25 grams net of tea and Rs. 1.05 per kilogram in the case of other packages containing not more than one kilogram net of tea. Simultaneously, the facility of export in bond of such package tea has also been allowed.

Two notifications to give effect to these decisions have since been issued by the Union Finance Ministry.

Port Earnings Up

The Madras Port handled traffic of 8.07 million tonnes during 1977-78 as against 7.84 million tonnes in the previous year. The export traffic amounted to 3.52 million tonnes and the import traffic to 4.55 million tonnes. Two streams of the 'mechanical ore handling system' were commissioned during the year and 1.56 million tonnes of iron ore passed through this system. The port earned Rs. 259.1 million as compared to Rs. 228 millions in the previous year.

The items exported through the port included iron ore, mica, tobacco, leather and leather-goods , iron and steel machinery, bone and bonemeal, and cotton piece goods. The imports included fertilisers, chemicals, coal vegetable oils, cement and cotton.

The year also saw the setting up of a Port-Trust Staff Training Institute to meet the need for manpower development. Under the apprentice training scheme, 161 aprentices were given training in various trades. Earlier, employees were sent abroad for special training.

Industrial Growth a Diversification

Better Performance of

Mineral Exploration Corpo (MEC), a public sector con earned a profit of about Rs. 12 r last year, wiping out the accum losses of previous years. MEC's i rose to Rs. 82.60 million durin period from Rs. 62.30 millio 1976-77. According to the Com Annual Report for 1977-78, the siz profit was largely due to increased ductivity, the optimum use of ment and economy in expend Current indications are that incor 1978-79 will be of the order of 100.81 million instead of Rs. million projected earlier.

MEC was set up in October, for taking up detailed exploratio mineral deposits to serve as a basi investment decisions on these rese Over the last six years the Corpora has contributed substantially in br ing the time-gap between the disco of a mineral prospect and its even exploitation. In recent years, the poration has also entered the fiel mine construction. The Corporati activities are mainly contractual w for other undertakings, whether in public or the private sector, for wh payments are made by the concer agencies; and promotional work, at behest of the Central Government, which funds are provided by Government.

Compared to previous years, there all round improvement in the perfo ance of the Corporation last year. total of 133,618 metres of drilling alo with the requisite geological and ana

tical work was done as against 97,521 metres of drilling in the previous year, 1976-77. The workshops of MEC at Nagpur and Dhanbad were engaged in the manufacture of various types of drilling accessories and in the repair of the equipment. The Corporation's activities last year were spread over 65 projects for mine construction as against 52 projects last year. Exploration for coking and non-coking coal constituted about 75 percent of the drilling work. The work in bauxite claimed the major share of the remaining drilling work and rest of the drilling was on copper, iron, ore , dolomite, limestone, chromite and lead-zinc. In view of the expanding activities of the Corporation, an increase in the number of personnel from 871 at the end of March, 1977, to 1998 at the end of March, 1978, was inevitable. Correspondingly, personnel expenses increased from Rs. 1,80,78,650 in the year 1976-77 to Rs. 242,39,575 in 1977-78. The Report notes that the profit of over a crore last year was achieved despite the increase in personnel and the consequent expenses on this account.

Improved Performance of Hindustan Zinc

The Hindustan Zinc Limited (HZL) reported higher production of Zinc, lead, zinc dust, cadmium and rock phosphate during the year 1978 as compared to the previous year. Last year, the Zinc Smelter at Debari in Rajasthan produced 27,782 tonnes of zinc ingots while production of the Smelter at Visakhapatnam in Andhra Pradesh was 19,146 tonnes. Put together, 46,928 tonnes of zinc was produced as against 27,821 tonnes of Zinc ingots' production in 1977- an increase of over 44 percent. As a result of the start of regular production of refined lead by Zinc Smelter at Vizag, the production of lead rose from 7,588 tonnes to over 10,060 tonnes during 1978, representing an increase of nearly 33 percent over 1977.

The production of cadmium almost trebled during the year, with the Zinc Smelter (Debari) producting 70,788 kilograms of cadmium and Zinc Smelter, Vizag, was also able to produce 1?,664 kilograms of this metal. The cumulative production of cadmium during the year was 89,452 Kgs compared to 32, 564 Kilograms during 1977. HZL's main mining complex at Zawar in Rajasthan together with other mining units produced 10,46,119 tonnes of ore and milled 11,29,767 tonnes of ore during 1978 as compared to 9,18,344 tonnes of ore and 8,56,001 tonnes of milling in 1977. This represents nearly 14 percent increase in the production of ore and about 32 percent increase in milling of ore over the 1977 figures. In the production of concentrates, 78,395 tonnes of concentrate was produced as against the production during 1977 of 59,761 tonnes- an increase of over 30 percent.

Production of rock phosphate at the Maton Mines near Udaipur also increased to 80,000 tonnes from 72,820 tonnes in 1977. Similarly, the beneficiation of rockphosphate increased to 64,331 tonnes during 1978 from 51,364 during 1977. As a result of this, the rockphosphate concentrates produced during 1978 was nearly 38,000 tonnes, compared to 31,257 during the year 1977. Sulphuric Acid production from Debari and Vizag Smelters was 78,122 tonnes. Production during 1977 was 75,578 tonnes.

The Zinc Dust Plant at the Zinc Smelter in Debari produced 2,749 tonnes of zinc dust as against the production of 1,754 tonnes during 1977.

Commensurate with the increased production sales turnover also increased by over 22 percent to about Rs. 451.3 million in 1978 from Rs. 369.2 million in 1977.

The increase in production by mining units during 1978 is attributed to the stabilisation of mining operations of Balaria mine and its concentrator. Higher production of lead and zinc during 1978 was possible because of progressive stabilitisation of production of zinc and lead by HZL Smelter at Vizag. Steps have been taken to double the capacity of rock phosphate concentrator at Maton.

The year-end review of HZL states that it hopes to open a new chapter in production when its Phosphoric acid plant at the Zinc Smelter, Debari, goes into commercial production this year. The plant has already been mechanically completed and the commercial production of phosphoric acid is likely to start very soon. HZL has also completed the first zinc residue treatment plant in the country at Vizag which is to be commissioned shortly.

Increase in Power Generation

The power generation in the country has recorded an increase of 13 percent during the first nine month of the current financial year (April to December) over the corresponding period last year. This rate of growth will be continued throughout the year. This was stated by the Union Energy Minister, Mr. P. Ramachandran at recent meeting of the Standing Committee of the State Power Ministers Conference in New Delhi. Though shortages continued to be experienced in certain pockets in the country the over-all supply position had made significant improvement, he added.

Concessions to Business Houses for Rural Development

Seventy eight companies have been allowed income tax concessions for undertaking rural development programmes. The programmes include construction of dispensary, hospital buildings, schools, cycles shelters, dwellings for scheduled castes/scheduled tribes, village roads and pavement of village lanes. These also include drinking water supply, minor irrigation works, dairy and cattle development, social forestry, rural crafts and cottage industries, eye-relief camps, occupational training centres, reclamation of waste land, soil conservation library and reading rooms.

Forty two associations and institutions also have been permitted to undertake rural development work. On their planning, the programme and its approval by the competent authority, they will be allowed income tax concessions.

The total investment on the rural development programmes being undertaken by industrial houses and other various agencies is of the order Rs. 123.10 million. The programme has gained considerable momentum and the number of such bodies seeking approval of the prescribed authority for income tax concession is on the increase.

In a vast country like India, rural development, which is an essential part of the overall scoio-economic development programme, calls for an all-out effort. Government has sought the support of the industrial and business houses and coperative institutions and voluntary organisations for this programme. The incentive that is being offered to them include exemption from income-tax granted on the expenditure incurred by them on an approved programme of rural development. The prescribed authority, for approving the programme and the concessions, functions under the Chairmanship of the Secretary, Union Department of Agriculture and Rural Development.

The provisionst for tax concessions hasbeen made under Sections 35 CC and 35 CCA of the Income Tax Act.

The involvemen of non-official institutions, industrial and business houses in various programmes of development is also creating additional avenues of employment.

With a vew to streamlining the process and ensuring proper coordination between official and non-official institutions, the Union Secretary for Agriculture and Rural Development, Mr. G.V.K. Rao has in a letter addressed to the State Governments, stressed the need for full cooperation between the participating agencies. These include industrial and mercantile houses, associations and institutions, extension and block agencies, Panchayati Raj and peoples institutions.

The letter suggests that Institute of Community Development in each State could be utilised for organising seminars and conference for enlisting cooperation of representatives of the Central Board of Direct Taxes, Department of Rural Development and the National Institute of Rural Development, Hyderabad. States have been requested to extend facilities available at the extension training institutes to the participating industrial and merchantile houses to step up rural development work.

Science and Technology

Research and Development on Solar Energy at NPL

National Physical Laboratory is one of the earliest institutions in the country to realise the importance of solar energy. The laboratory initiated work in this field in the early fifties and during that time developed solar water heater and solar cooker. Solar water heaters installed then are still operating. Paraboloid solar cookers were shown to be both technically feasible and economically competitive.

The National Physical Laboratory has now a fairly extensive and broad-based programme on the development of thermal as well as photovoltaic devices.

Realising the fact that the heart of all solar thermal devices is the solar collector, an emphasis was laid on the development, fabrication and testing solar collectors. A flat plate collector using aluminium bond duct panels coated with commercially available black paint was designed and fabricated. These solar collectors have been used in the heating of a swimming pool in one of the hotels in Delhi. Another collector with one glass cover but with mirror boosters was designed. These collectors were used in the space heating system designed and fabricated in collaboration with Bharat Heavy Electricals Ltd., Hardwar.

It is known that in order to reduce the energy loss from the collector by way of radiation and increase the absorption of the incoming solar radiation, it is necessary to coat the collector surface with a selective coating with absorptivity in the solar spectrum tending to zero. The whole concept of selectivity in relation to glass and metal substrate has been analysed. Various selective coatings amenable to mass production techniques have been developed.

For conversion of solar energy into mechanical and electrical energy, it is necessary that the input temperature is as high as possible. In order to attain higher temperatures, it is necessary to go in for concentrating collectors. Parabolic concentrating collectors capable of giving stagnation temperatures as high as 450°C have been made.

A complete test facility for testing the instantanceous and comparative efficiencies of a collector has been set up. The testing of a collector is carried out using three different approaches.

A variety of solar water heaters have been developed, fabricated and installed at a number of residential buildings. The one which has become the most popular, uses a small circulating pump to circulate water from the collector on the top of the building to the storage tank installed in the bath room.

One of the first major applications of solar energy, was the space heating system set up in one of the factories of Bharat Heavy Electricals Ltd. Hardwar. Water is heated in a row of collectors mounted on the top of building and stored in an underground storage tank during the day. The hot water is then made to circulate during night through fan coil units placed at 15 different locations in the factory to provide comfort heating to the workers.

A solar space heating system was installed in a room in the NPL. A row of collectors is mounted on the top of the building and water is heated in these collectors. Water is circulated through a fan coil unit placed in the room.

A solar space cooling system using water-ammonia vapour absorption cycle has been designed and fabricated.

A multipurpose hot water system for providing hot water in rooms, for heating the swimming pool etc. has been successfully installed at a five star hotel, Hotel Maurya.

A solar dryer has also been designed and fabricated. In this dryer, air circulates through a blower in the space between the solar collectors and the transparent glass cover. As the air passes over the collectors, it gets heated and further gets into the chamber. The dryer can be used to dry agricultural produce such as chillies, copra, etc. It could also be used for laundries by drying of clothes could be dried in an hour.

A solar pump has been designed and fabricated keeping a view the needs of rural community for irrigation pumps. The pump uses an organic vapour rankine cycle coupled with a flat plate collector. Water is heated in a row of collectors and stored in a storage tank. A variety of solar cookers have been developed. A hot box has been developed. The temperature in the hot box rises to about 250°C on a sunny day and it is possible to bake a cake or cook rice.

A multipurpose system to generate 5kw of power using solar energy has been designed and is in the process of fabrication in collaboration with M/s Triveni Structurals Ltd. Naini. The system is based on an organic vapour rankine cycle copled to parabolic circulating collectors.

BARC Gas Analyser

An automatic gas chromatograph which can be used for monitoring the environment around industries for gaseous pollutants, and for process monitoring, purity checks and a number of other operational applications in industry has been built by the Analytical Chemistry Division of the Bhabha Atomic Research Centre, Trombay. The unit can continuously analyse samples from six streams, or sampling points in a cyclic and repetitive operation. It can measure the concentration of gaseous pollutants in the ppm/sub ppm ranges.

The unit consists of a gas chromatographic column for separation of gaseous components and three detectors (thermal conductivity, flame ionisation and electron capture) for detection and determination of components ; a control unit and an analyser unit. The control unit includes power supplies, timers, relay units and associated electronics for detectors, while the analyser unit consists of solenoid control valves, an automatic sampling system, and the gas chromatographic system.

The unit can be worked manually or automatically. When operated manually, the stream for analysis can be selected through a switch and the sample injected manually into the analytical system as and when needed. If operated automatically, either a selected stream can be injected into the system automatically at a regular interval of 10 minutes (a repetitive operation with one stream) or, where a number of streams are involved, they can be injected, one after the other with an interval of about 10 minutes between successive injections. The output is recroded using a potentionmetric recorder. The different streams are identified by a mark appearing on the recorder chart paper at the time of sample injection.

The unit has also been tested for measuring the pollution level of anaesthetic gases in the operation threatre of a hospital.

The unit has been assembled using locally available components. The cost of a equipment, when commercially produced, may be approximately Rs. 30,000 excluding the recorder and the amplifier. Such a vital equipment is at present not available in the Indian market.

Vibration Analysis for Wing-type Structures

The National Aeronautical Laboratory, Bangalore (NAL) has carried out studies on vibration of wing-type structures using laser holographic techniques in conjuction with a 50m W helium-neon laser. Availability of experimental data such as resonant frequencies and mode shapes of structural components is essential for deisgn purposes. The mode shapes and frequencies can be very accurately determined by using the interferometric techniques of laser holography. One of the techniques of holography, namely, the real time holographic interferometry, permits the observation of mode shapes in the form of live fringes, and the associated frequencies can be scanned in a relatively short time, usually less than as hour. In this project some of these techniques have been developed and also employed for determining the resonant mode shapes and frequencies of wing-type a structural components.

Wing models of various planform, such as trapezoidal, triangular and a swept-back cantilever plates, have been considered for vibration testing, and mode shapes and frequencies for all these cases have been obtained. In addition, the effects of supporting conditions arising from partial supports at the root chord and also those realised in the structural construction of real aircraft wing structures on the modal density of plate models have also been investigated. The purpose of this investigation was to study the effect of supporting conditions on the modal density of veriaous cases of plate models considered.

In order to utilise the capability of holography in its application to practical structure to the maximum extent, it becomes necessary to determine the maximum size of an object that can be tested under vibration. Studies in this direction indicate that small scale models of real aircraft wings can be tested using the present holographic facilities.

It is appropriate to mention here that some of the techniques of holography that have been developed so far can also be extended to the study of pulsed laser holography, which offers a potential method for testing real structures wth large surface areas, located in a factory environment with the associated vibrations unrelated to the testing and with ambient illumination. Feasibility studies for building this facility with a ruby laser are currently being carried out.

Expanding Steel Capacity in Developing World

A programme of action has been initiated to speed up the growth of the steel industry in developing countries, based on development projections till 1990. The 2nd Consultation Meeting of the UNIDO (United Nations Development Organisation) on iron and steel ended recently in New Delhi with a series of recommendations to be implemented by the UNIDO before the next consultation meeting on steel. These include the establishment of an independent advisory body of experts to help developing countries in the early stages of the consideration of steel projects, besides recommendations on a wide range of issues relating to availability of raw m including of coking coal and iro training and finance for steel de ment. The question of social a of the steel industry was also dis in depth.

The developed countries reco the aspirations of the devel countries for the creation and exp of their steel industries and de their continuing willingness to the developing countries in this re This was also reiterated in s terms by the representatives o trade unions. It was noted that production in developing countrie not been affected by the diffic faced in the market economy cour and that there was an opport for them to undertake a new towards self-reliance in steel w was a basic and strategic indu The Consultation Meeting concl that though the developing coun had, despite difficulties, made s progress in the development of t steel industry, the changes that taken place in the world iron steel industry needed to be anal in connection with '75 the L objective to further raise their sh in the total steel production. It agreed that mutual interest exis between the developing and developed countries in the steel sec and that the development of iron and steel industry in the develop world might have positive effects the economies of the developed cou ries through the growth of the mar for consultancy services and Capi goods.

It was recognised that for the develo ment of the steel industry in t developing countries, adequate finan was the most critical input. It is n only the question of providing finan on normal commercial terms but t

financial package has to be in a form that the cost of capital is not high because otherwise the project will become economically unviable with inadequate return on investment made. A suggestion had been made that perhaps to overcome this problem UNIDO could set up a Steel Development Fund with the assistance of developed countries and some oil rich developing countries, so that loans on soft terms could be given for new steel projects in the developing countries or at least some subsidy could be given to soften the burden of the high rates of interest.

The Meeting decided to set up a working group under the auspices of UNIDO which would go into the question of resource mobilisation for setting up steel plants in the developing countries as a total package including finance. This working group would consist of experts from the developed countries, the developing countries as well as some of the international organisations. There is no doubt that if this working group is set up at an early date and it tries to fulfill the charter given to it in an effective manner, this will provide a major breakthrough to meet the aspirations of the developing countries. It is perhaps for the first time that a definite proposal on these lines has been accepted both by the developing and the developed countries in a true spirit of cooperation which will certainly lead to package results to the mutual advantage of both the developed and the developing countries.

Apart from the exchange of views between the developing and the developed countries, and among the developing countries themselves, the Meeting afforded an exposure of the developing countries to the progress made by India in the steel sector. India also offered to share her expertise in steel with other developing countries. It was recommended that frequent meetings be organised between groups of developing countries that were working through their steel development programmes together with other interested developing countries to set out the technical and economic criteria to be assessed in establishing a steel industry, including the exploitation of orefields and expound the details of the successive stages in the consideration of projects. Such frequent dialogues would help strengthen economic, financial and other types of cooperation among developing countries to establish a unified strategy in the steel industry. UNIDO was also asked to study the marketing of finished and semi-finished products and make the results of this study available to developing countries.

The Committee recommended the setting up of a working group to assist developing countries in understanding the construction and use of long-term purchase contracts to ensure access to supplies of coking coal and the promotion of regional cooperation on research and development in all aspects of coalmine development and utilisation of coking coal including the establishment of research centres in appropriate cases. A working group would also be set up for the benefit of both developing and developed countries to assess to technologies available for economising the use of coking coal and the use of other alternatives. Study tours would be organised, with the help of the developed countries concerned, for representatives of all developing countries to see practical examples of modern methods of economising in the use of coking coal. It was suggested that UNIDO should also study the use of natural gas and other forms of energy in the production of iron and steel.

On iron ore, the Meeting recommended the identification of instances throughout the world for possible cooperation between neighbouring countries in the exploitation of shared ore deposits. It also called for the setting up of a working group composed of representatives of developed and developing countries interested in exporting and importing iron ore to help developing countries towards an understanding of the structure of the market and the nature and content of long-term contracts for the purchase of iron ore. Possibility of linking prices of raw materials and fuel to those of steel products should be explored, in view of the fluctuating costs and prices of iron ore and coal which affected both the developing and developed countries. The Meeting suggested also that UNIDO should organise pilot tests of iron ore in developing countries to check their suitability for the direct reduction process.

The Meeting recommended the establishment of an independent advisory service composed of experts to act at the request of developing countries in the early stages of the consideration of steel industry development projects. The services to be provided by those experts could be extended to up-stream and down-stream problems in the iron and steel industry. The advisory service could offer important assistance in pre-feasibility studies before large sums of money were committed on consultancy agreements. UNIDO should also continue to promote contacts and cooperative arrangements between research and development institutes in developing and developed countries and provide such information as may be needed by developing countries from these

institutes. It would also set out a proposed model constitution for national and regional steel industry management training colleges for developing countries, showing the working arrangements, facilities, courses of study, staffing, and financing involved and assist in setting up such colleges within the framework of UNIDO technical assistance and promotional activities. The meeting recommended that the cooperation of more developed countries with established steel industries be sought to provide training schemes, including in-plant training, for personnel of all levels from developing countries.

The need for greater participation of trade union representatives in the future consultation meetings was stressed by many speakers. The trade union representatives from the market economy countries informed the Meeting about steps and measures that had been undertaken in their countries to provide employment opportunities to those who lost their jobs after closures of some works. In view of the current change in the world economic situation and the factors contributing to it, UNIDO should continuoulsy survey trends in world iron and steel production. In doing so the need for harmonious and balanced growth in the developing countries should be borne in mind, taking particuarly into account such social and human aspects such as unemployment, wages, urbanization, the quality of life, etc. The representative one participating country expressed the view that social consequences of the world situation, if the Lima goal were not to be achieved should be studied by the group which should co-operate closely with trade unions at international, regional and national levels.

In his concluding remarks, Mr. Mantosh Sondhi, Secretary in Union Ministry of Steel and Mi described the deliberations as v fruitful and hoped that its recommen tions would be pursued with vigo Mr. John Adewumi of Nigeria, w was one of the Vice-Chairmen of t Consultation Meeting, described t meeting as being particularly significa for the developing countries. Mr E ward Firek of Poland and Mr. Arge Joso Gamboa of Venezuela, the oth two Vice-Chairmen of the Meetin said that the Meeting had led to better understanding of the mutuali of goals. The Meeting was attende by 156 participants representing go ernments, industry, labour and co sumer groups from 47 countries an 12 international organisations. may be recalled that the first meetin was held in Vinna in 197 as part of the programme of industri consultations among the membe nations of UN. □

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economic and commercial news

News Highlights

Indo-Saudi Economic Cooperation
Possibilities of further cementing the economic cooperation between India and Saudi Arabia were explored recently by the Union Industry Minister Mr. George Fernandes who led an Indian delegation to that country. It was agreed by Saudi Arabian Government that there was much wider scope for India's participation in joint ventures particularly in engineering and consumer industries and civil construction. It was also agreed that Indian firms in the field of consultancy and constructions had considerable role to play in the development of Saudi Arabia.

Indian Rice for Mauritius
Under an agreement recently signed between India and Mauritius, the former would supply additional 12,000 tonnes of rice to the latter. India has also given an option to Mauritius to take another 12,000 tonnes of rice later.

Indo-Nigerian Steel Cooperation
An official Nigerian delegation, which recently visited India, was assured by the

(*Contd. on page* 2)

Export Performance and Potential

Promoting Indo-Saudi Economic Relations

Talks between India and Saudi Arabia to explore possibilities of further improving the bilateral economic co-operation between the two countries were held recently. The eleven-member Indian delegation to the talks was led by the Union Industry Minister, Mr. George Fernandes

On his return from Saudi Arabia, the Union Minister of Industry Mr. George Fernandes said that he was very happy with the positive response the delegation received in Saudi Arabia and regarded it as a major breakthrough in the economic and political relations between the two countries. It may be mentioned that this was the first official visit of a Minister to Saudi Arabia since the new Government came into power.

The Industry Minister had meeting with Crown Prince Fahad bin Abdul Aziz, First Deputy Prime Minister, and handed over to him a message from India's Prime Minister Mr. Morarji Desai. He also extended an invitation from the President, Mr. N. Sanjiva Reddy, to King Khalid to visit India.

The Crown Prince welcomed the visit of the Minister of Industry and expressed the hope that the historical and friendly ties between India and Saudi Arabia would be further strengthened and the areas of economic co-operation expanded as a result of the visit.

Mr. Fernandes reviewed the existing areas of economic coperation and the possibilities of widening them further.

He also discussed the question of Saudia Arabia meeting India's oil requirements.

Union Minister of Steel and Mines Mr. Biju Patnaik, of India's willingness to provide every possible technical assistance to Nigeria in setting up its steel plants and in developing business capabilities in these fields. The delegation was also assured that India would be glad to provide any assistance in iron ore mining.

Technological Cooperation between India and Bulgaria

According to a five—year agreement signed recently between India and Bulgaria, the two countries would cooperate in science and technology covering various fields such as ionospheric research, agriculture and minerals. This agreement is a follow-up of the 1967 agreement for bilateral cooperation in science and technology.

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The Crown Prince Fahad assured the Minister of Industry that Saudi Arabia would do everything that was possible to meet these requirements.

The Minister of Industry also had detailed discussions with his counterpart, Dr. Ghazi-al Gosaibi, Minister of Industry and Electricity; Dr. Sheikh Ahmed Zaki Yamani, Minister of Petroleum and Mineral Resources and the Saudi Arabian Ministers of Finance, Communications, Agriculture and Commerce.

The Saudi Arabian Government expressed its satisfaction over the progress of the Wadi Jizan electrification project which is being executed by the Bharat Heavy Electricals Ltd. It was agreed that BHEL would be invited to participate in the future programmes in this field, including the expansion of the Jizan project.

It was also agreed that there was a much wider scope for India's participation in joint ventures with Saudi Arabia, particularly in engineering and consumer industries and civil construction. A list of such industries has been indicated by the Saudi Arabian authorities and a large Saudi Arabian delegation will soon visit India for furthr discussions.

The possibility of Indian consultancy and expertise in setting up an ammonia-based fertiliser project, with a capacity of over 200,000 tonnes also came up for discussions.

It was agreed that Indian firms in the fields of consultancy and construction had considerable role to play in the development programmes of Saudi Arabia, and a list of such firms would be provided to the Saudi authorities so that they could be invited to participate in future tenders.

In the field of agriculture and irrigation, Saudi Arabia is already involved in the Sri-sailam and Nagarjunasagar projects with assistance of 100 million dollars from the Saudi Development Fund. The Fund has also committed 30 million dollars for the Koelkaro Hydel Project in Bihar. The Saudi authorities agreed to consider the delegation's request for increasing the assistance from the Fund for this project.

A proposal for the Rajasthan Canal Project Phase II was also presented to the Saudi Development Fund authorities who assured Mr. Fernandes that they would continue to support agricultural and irrigation projects in India.

The Saudi Arabian Government requested India's Industry Minister to provide experts in the field of veterinary sciences and ground water exploration. Mr. Fernandes agreed to it and a high level delegation from Saudi Arabia is expected to visit India shortly to finalise the details.

The Saudi Arabian authorities expressed their desire to import 40,000 tonnes of Basmati rice from India as well as meat, poultry and vegetables on a continuing basis. The Minister of Industry assured them of India's interest in these areas. A commercial delegation will be sent to Saudi Arabia in the near future to finalise these matters.

Indo-Kuwaiti Ties

According to a commercial report from the embassy of India, Kuwait, some Indian companies have secured orders/contract from Kuwait. The TELCO division of the Tata Exports Ltd. have secured another order valued at Rs. 16.50 million for 100 buses from the Kuwait Transport Company (KTC). With this order, the KTC will have 650 Tata buses in its fleet. M/s Vijay Tanks and Vessels Pvt. Ltd. of Bombay have bagged a contract woth Rs. 7.695 million from the Kuwait Oil Company for the replacement of three crude oil storage tanks. This contract includes erection of two tanks of 20,000 barrels capacity and one tank of 10,000 barrels capacity with connected civil electrical and instrumetation work. The first 100 tons of tea ordered by the Kuwait Supply Company from the Tea Trading Corporat on of India have since gone on sale at the various cooperatives.

According to another commercial report, the Indian Oil Corporation has finalised the purchase of 100,000 tonnes of furnace oil and 50,000 tonnes each of kerosene and diesel oil (HSD) from the Kuwait National Petroleum Company (KNPC). Earlier IOC had contracted to purchase 36,000 tonnes of naphtha and 100,000 tonnes of fuel oil from KNPC.

Nigerian Steel Team Visits India

A Nigerian delegation led by Alhaji Abubakar Alhaji, Chairman of the National Nigerian Steel Development Authority and Permanent Secretary in the Nigerian Federal Ministry of Industry, had discussions with Mr. Biju Patnaik, Union Minister for Steel and Mines recently. During the discussions, the team was assured of India's willingness to provide every possible technical assistance to Nigeria in setting up its steel plants and in developing indigenous capabilities in this field.

Earlier the delegation met Mr. Mantosh Sondhi, Secretary, Ministry of Steel and Mines and had detailed discussions on steel development. During the course of discussions, steps taken over the years to develop the steel industry in India and to achieve self-reliance in the steel sector were explained to the Nigerians. The Nigerian delegation evinced particular interest in various aspects of consultancy, civil construction and equipment procurement for the steel plants with particular emphasis on the cost of operations. The various alternatives available for financial arrangements were also discussed. The Nigerians showed keen interest in the manner in which India had financed the indigenous steel industry and the proposals that were being considered for new steel plants.

The problem of training also figured in the talks. The Nigerian team was informed of India's experinece in building up training facilities for the steel plants. It was mentioned that training was a crucial factor and a developing country had to make all efforts to train up local people before commissioning new steel plants.

The problem of iron ore mining was raised by the Nigerians and they were assured that in view of the country's experience and expertise in mining, India would be willing to provide any assistance that Nigeria may need in this field. The Nigerian team also visited various steel plants, including Bhilai and Bokaro, to see the work going on in operation, construction and expansion of the plants. They also had discussions with the management of the plants to acquaint themselves with the various operational aspects of steel industry.

More Indian Rice for Mauritius

India and Mauritius recently signed an agreement for the supply of additional 12,000 tonne of rice to Mauritius. The agreement was signed by the Mauritius Minister for Commerce, Mr. D. Basant Rai on behalf of his Government and by Mr. R. Subramanian, Union Secretary for Food on behalf of the Government of India.

India has also given an option to Mauritius to take another 12,000 tonnes of rice later. The option is to be exercised by March 31 this year. Two varieties of rice, fine and medium, have been identified. The choice of the variety to be supplied will be intimated by Mauritius Government by 31st May this year. This has been done to enable the Mauritius Government to assess the acceptability of its people.

The agreement signed in October last was for 24,000 tonnes. Its supply will begin in March, to be completed within six months. The supply of the additional quantity of 12,000 tonnes agreed recently will begin in November this year and completed by January-February next year.

Speaking to newsmen, the Union Secretary said that he had no doubt that the Indian variety of rice would be acceptable to Mauritius, as it was very good. He expressed the hope that in times to come th export of rice to that country would further grow. It already formed a sizeable portion of the total Indian export to that country.

The Mauritius Minister expressed the hope that the economic ties between the two countries would further grow and the trading activities would further strengthen the existing relations.

Indo-Bulgarian Technolgical Cooperation

India and Bulgaria recently signed a five-year agreement on cooperation in science and technology, covering various fields such as ionospheric research, agriculture and minerals.

The agreement was signed by Prof. K. Serafimov, Chairman of the Bulgarian Space Committee and leader of the Bulgarian scientists' delegation and Dr. A.R. Verma, Director of the National Physical Laboratory, who led the Indian delegation.

The agreement is a follow-up of the 1967 agreement signed between the two countries for cooperation in science and technology.

Cross-breeding of buffaloes, extraction of aromatic oil from various aromatic plants, beneficiation of low-grade copper and iron ores, corrosion research and metallurgy are among the other fields identified for joint research.

In the field of ionospheric research, considerable joint work has already been done which could ultimately lead to the prediction of climate.

A rocket with payloads of Indian and Bulgarian design had been launched from Thumba in Kerala for ionospheric studies. A second rocket is ready for flight.

Prof. M.G.K. Menon, Dirctor General of the Council of Scientific and Industrial Research said that Indo-Bulgarian co-operation in science and technology in the past had been advancing reasonably well. Bulgaria could help India in the cultivation of aromatic plants and extraction of perfumes, he added.

Prof. Serafimov said one of the most successful joint projects had been breeding of better buffaloes. Bulgaria had imported from India (Punjab and Gujarat) about 200 buffaloes so far. The cross-breeds from Bulgarian institute of buffalo research from the Indian buffaloes had given very good results, the milk yield going up to 3000 from 700 litres a year.

Indo-Japanese Scientific Cooperation

Prof. Takashi Mukaibo, President of Tokyo University had detailed discussions with the scientists and senior officials of the Department of Science and Technology regarding scientific and technological cooperation between India and Japan, at New Delhi recently. A wide range of subjects including ocean science and technology, non-conventional sources of energy, algae research and systems analysis approach to problems of rural development was discussed.

Prof. Mukaibo's visit is a significant indication of the growing interest among the scientists of the two countries in expanding fruitful contacts of mutual benefit.

During his three-day stay in Delhi, Prof. Mukaibo called on the Prime Minister, Mr. Morarji Desai and the Minister of Education and Social Welfare, Mr. P.C. Chunder. He visited Indian National Science Academy, Delhi University, Jawahar lal Nehru University and the University Grants Commission.

Indo-Japanese scientific relations hav shown sign of improvement over th last couple of years and concret projects of cooperation have bee identified. A high level team c scientists from Japan it expected t visit India during the month to hav discussions regarding the implemen tation of these projects. There exist an agreement between the Indian National Science Academy and th Japan Society for promotion of science for the exchange of visits of scientists.

Financial Cooperation between India and UK

Three agreements for a total value of Rs. 2320 million (£ 145 million) were signed recently in New Delhi by Dr. Manmohan Singh, Secretary, Department of Economic Affairs, Union Ministry of Finance, and by Mr. Peter Preston, Permanent Secretary for Overseas Development Ministry, Government of the United Kingdom,

The agrreements are in pursuance of the British pledge at the last Aid India Consortium meeting to provide £ 75 million for projects imports, £ 60 million for maintenance imports and £ 10 million for power and coal sector imports. Aid provided by UK under these agreements, as in the previous years since June 1975 is in the form of grants.

In addition, an agreement was also signed setting out the arrangements for annual British grant commitments for financing local costs of agreed development projects and programmes, including those designed to help the rural people. The agreement formalises the British decision, announced by Mrs. Judith Hart on July 31, 1978, to relieve India, through such local cost financing, of debt service payments on past official loans from UK which

upto the end of this century aggregate to Rs. 9040 million (£ 565 million).

Speaking on the occasion, Dr. Manmohan Singh thanked the Government of the United Kingdom for this generous amount of assistance. He added that Britain had been the largest donor in India's development effort. Development of India in various fields was a tremendous effort with many complexities. The assistance received from the United Kingdom was of tremendous significance to the country.

Mr. Peter Preston said that the signing of the agreements was an important development in the British aid programme to India and reinforced Britain's position as the largest donor of bilateral aid to India. The agreements came at a time when there was a significant awakening of interest by British exporters in the Indian market. The extra aid made available would further strengthen the close and friendly economic relations between the two countries, he added.

Export of Sports Goods

A development centre for sports goods industry would be set up at Jullundur before the year end. The centre would help in disseminating latest information and market intelligence on taste and fashion in sports goods abroad. The centre would also help the industry in improving its production pattern.

This was announced by the Union Minister of Commerce, Civil Supplies and Cooperation, Mr. Mohan Dharia in Delhi recently.

Inaugurating a seminar on sports industries, organised by the Sports Goods Export Promotion Council, the Minister said that priority had been given to Jullundur because that was the area where the sports industry had grown very fast. He indicated that a number of such centres would be located at other places later on.

The Minister held that the Committee going into the question of import duty relief on replenishment licences would submit its report shortly. He appreciated the growth in the volume and value of sports goods export, but cautioned the Council against a sense of complacency. He said the sports goods provided a vast scope for exports provided "we improve the quality and take care of standardisation and specification. In this connection, he called for a close liaison between Indian Standards Instituton and the Sports Goods Export Promotion Council. This, he said, would help in creating confidence among foreign buyers in the quality of our products. He said that since a very large majority of the 850 units manufacturing sports goods were small and were not able to market their products abroad on their own, he would ask the State Trading Corporation to assist them.

Mr. Dharia assured all help in widening the base of production and in increasing productivity. He said that the Government would see that whatever inputs or machinery were needed, the industry would be given a free hand to import it.

The Minister agreed with the suggestion to impart managerial training to sports goods industry personnel. This, he said, was very essential in the modern world.

The Chairman of the Council Mr. P. K. Kaul, in his welcome speech, said that the sports goods industry which was mainly a rural-based and labour-intensive one, exported over 70 percent of the total production of the seventies. The export showed a phenomenal rise. In 1970-71, it was of the order of 17.60 million which increased to Rs. 181 million in 1977-78. He expected the exports in the current year to touch a new high. He said that notwithstanding the structure of the industry, it had improved its quality and India's products were being sold in the face of stiff competition from Taiwan, South Korea and Pakistan. India's main markets, he added, were in the developed countries in West Europe, Australia, USA and Canada. He wanted the industry to give a serious thought to increasing India's exports to cross Rs. 1,000 million mark by 1984-85. This, he said, could only be done if the industry geared its production and adopted latest technology for manufacturing sports goods especially in the upper price bracket.

Third Indian Engineering Trade Fair

The Third Indian Engineering Trade Fair organised by the Association of Indian Engineering Industry (AIEI) was inaugurated by the President of India, Mr. Neelam Sanjiva Reddy in New Delhi on February 2, 1979. Speaking on the occasion, he stressed the need for harnessing science and technology to fulfil national objectives. He said that one of the most important aims was the development of the rural sector. He said that the engineering industry had a very vital role to play in the realization of this objectives, the first step being development of infrastructural facilities like power, transport and irrigation.

The President complimented the organisers of the fair for highlighting the development of the small scale

sector and pointed out that while the establishment of heavy and big industries was not only useful but highly necessary to make the country meet her requirements internally, they did not solve the unemployment problem to the extent the village and small scale industries could do. It was, therefore, necessary to lay greater emphasis on creation of a net-work of small scale and cottage industries through-out the country.

Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation, who also spoke on the occasion, said that at the beginning of the current decade, India exported engineering goods worth about Rs. 1,050 million only. In 1977-78 exports of engineering goods were around Rs. 6,230 million. He continued that with the active implementation of the policy of import substitution and self-reliance, the Indian engineering industry had come a long way and today it turned out a large range of products from a pin to locomotives.

This specialised trade fair aims at projecting the industry's production capability and the high level of technology. The fair has been organised on a larger scale, representing a wider cross-section of Indian engineering industry for which it seeks to serve as a buyer-seller meet. A special feature of this fair is the move to functional display of products without panels, in line with international practices. There is impressive representation from various sectors of the industry particularly from the automotive and auto-anciallary industries, electrical sector and heavy industry.

It may be recalled that the first Indian Engineering Trade Fair (IETF) was held in New Delhi in February, 1975, on the lines of specialisted trade fairs organised in industrialised countries. This was followed by IETF 1978, which also served as an effective show window for the engineering industry. IETF 1978 projected the Indian engineering industry's cpacities and capabilities to over 200,000 visitors ; delegates from 54 countries visited the Fair including representatives of 7 international agencies. At IETF 1978, business enquiries worth U.S. $ 92 million were generated of which US $ 27 million related to exports. An encouraging feature of the current fair is the projection of many sectors of the engineering industry. The industries covered include : air conditioning and refrigeration, auto anciallary industry, automotive industry, basic metals, compressors, construction and earthmoving equipment, defence equipment, electronics, forgings, foundry and foundry equipment, hand tools and cutting tools, heavy electrical, heavy mechanical, industrial furnances, industrial machinery covering cement machinery, chemical plant and equipment, sugar machinery, and textile machinery ; instrumenttation, light electricals, light mechanical, light structural, machine tools, pumps, shipbuilding anciallries, steel tubes and pipes, technical services, and welding. An essential part of the engineering industry is the small scale sector which contributes substantially to production and employment. Participation from the Small Scale Sector is about 15 percent of the total hall space.

Another special feature of the fair is the International Conference jointly organised by UNIDO and AIEI on "Co-operation between Engineering Industries in Asian Countries". Representatives from 16 Asian Nations would be present at the Conference. Among the countries from whom delegations are expected to visit the fair are : Afghanistan, Austria, Bangladesh, France, Guyana, Hong Kong, Indonesia, Iraq, Japan, Kenya, Sri Lanka, Syria, Pakistan, Saudi Arabia, Republic of Korea, UK and Yugoslavia. Besides, overseas visitors from about 75 countries are likely to come to the fair.

During the fair, a number of important Conferences are being organised to project different sectors of the Indian engineering industry. The sectors covered in these Conferences are : small industry, erection and construction industry, auto ancillary industry, mining and construction equipment industry, foundry industry, transmission line tower, consultancy services, industrial gases, import policy workshop, electronic industry and rubber industry.

According to the organisers, the fair is expected to generate business worth Rs. 1,000 million.

Export Duty on Soapstone Goes

The Government of India has decided to exempt steatite (talc) from the whole of the export duty.

Steatite or soapstone, on export, at present attracts an export duty of 20 percent *ad valorem*. The present exemption from this duty is expected to give a boost to the export of soapstone.

It may be mentioned that most of the soapstone in India is produced in Rajasthan and, out of this, large quantities are exported. It is understood that around 26,000 people are engaged in the production of steatite, mainly in the backward regions of Rajasthan. The present decision of the Government to exempt soapstone

talc from the whole of the export duty will help the production and export of this mineral and increase foreign exchange earnings from it and contribute to the development of the region from which this mineral is mined and processed.

Industrial Growth and Diversification

National Awards for Import Substitution

Eight firms, one research laboratory and two individuals were the recipients of the Republic Day National Awards for developing import substitutions this year.

The items developed by them are expected to result in an annual saving of about Rs. 38.4 million in foreign exchange.

The coveted two gold shields have gone to the Defence Electronic Research Laboratory, Chandrayanagutta Lines, Hyderabad for the development of secondary surveillance radar ; and M/s. Bharat Electronics Ltd., Bharat Nagar, Ghaziabad (UP) for the production of this radar.

The winners of the eight bronze shields are M/s. Blue Steel Engineers Pvt. Ltd. Bombay for the development of poldi type hardness tester with Inter-changeable indenting heads ; M/s. Indian Hydraulic Industries Pvt. Ltd., New Delhi for the development of high lift commissary service van ; M/s. Jyothi Ltd., P.O. Chemical Industries, Baroda for the development of 33 KV, 750 MVA circuit breaker ; M/s. Omintech Engineers (India) Pvt. Ltd., Calcutta for the development of reversing machine, i.e. reversing winch ; M/s. Production Tools Engineers, Bangalore for the development of bulk head connectors, FRS couplings, drain valve, king clamps, bonding clips, and spares for tanaka flame cutting machine ; M/s. Kumar Chemicals and Pharmaceuticals, Karnataka for the development of kaolin light I.P./B.P. ; M/s. Nivedita Chemicals Pvt. Ltd. Bombay for the development of Vit. B2-5 phosphate sodium ; and Mr. Amardeep Patheja and Mr. Ashok Walawalker, Bombay for the development of electro-magnetic clutches and brakes, clutch heads and telescopic Brushes. Mr. Patheja and Mr. Walawalker have won the shield jointly.

There were 27 entries for the competition and selection of the prize-winners was made by the Board of Awards for Import Substitution that is headed by Brig. B. J. Shahaney, Secretary and Director-General of Technical Development, and comprises leading industrialists, scientists and technologists.

These awards are given twice every year with the prupose of recognising and encouraging import substitution efforts by institutions and individuals. The announcements are made on the Republic Day and Independence Day every year. Through these awards public attention is focussed on the need for maximisation of import substitution and recognition is given to worthwhile import substitution efforts.

More Industrial Licences Issued

The Union Ministry of Industry issued 31 licences and 77 letters of intent during the month of December, 1978.

The items for the manufacture of which the licences were issued included wood screws, stainless steel cold rolled, T.V. picture tubes, PVC/LPE power cables, light emitting diodes, powder paint, pottassium chlorate, ampicillin and its salts, wollen fabrics, sugar and leather footwear.

The items for which letters of intent were issued include alloy steel castings, alloy iron castings, aluminium foil, plastic film capacitors, two wheeler scooter, shot blasting machines, low-density polyethylene co-extruded films, hosiery knitting needle, oxygen, calcium carbide, potassium chlorate, vitamin 'C', bulk drugs, cotton and blended fabrics, spun silk yarn, pulp and industrial paper, sugar, whole milk powder, butter, ghee, vanaspati, cotton seed oil, finished leather, refractory fibres and its products and hand tools.

Index of Industrial Production Up

The monthly index of industrial production for October, 1978 stood at 143.2. It was higher than the index for October, 1977 by 6.4 percent.

The growth rate during the first ten months of 1978 over the same period of 1977 was 6.2 percent. The growth rate for the current financial year 1978-79 over the corresponding period of 1977-78 showed a rise of 7.5 percent.

The nominal rise in index of the current month over the previous month was due to compensating effect of the increase in production of chemicals and chemical products electricity, tobacco and mining and quarrying against decrease in production of electrical machinery, apparatus, appliances and supplies, beverage industries, machinery except electrical machinery and transport equipment.

Railways Enter Era of Jumbo Jet on Track

The Indian railways entered the era

of 'Jumbo Jet on Track' with the flagging off at New Delhi, recently, of the first double-headed train in the country by Prof. Madhu Dandavate, Minister for Railways.

The Railway Minister pulled the lever and for the first time the Tamilnadu Express left New Delhi Railway Station with 21 coaches hauled by two diesel engines.

Speaking on the occasion, Prof. Dandavate described it as a Republic Day Gift to the passengers going to Tamilnadu and a step forward towards national integration. The Minister said that if the experiment succeeded, more trains would be run with two locomotives and with double the existing capacity. The Minister also inaugurated an additional extra-long island platform at the New Delhi railway station. The new platform will provide additional terminal facilities at the station.

The Minister also announced that in the near future the Railways would introduce more and more classless long distance comfortable trains on the pattern of the Gitanjali Express, electrify the ring railway in Delhi and put up additional building and one more new platform at the New Delhi Railway Station.

The Tamilnadu Express which steamed off this morning from the New Delhi railway station with 21 coaches in place of 13 is the first passenger train to be hauled by two fully synchronised diesel-electric locomotives. The new train has 96 II class ACC berths against 48 and 825 II class sleeper berths with padded cushion against 300 in the past. Also, for the first time, a direct contact has been provided between the engine driver and the guard through the Walkie-talkie system to ensure safety.

Coal Production Looks Up

The production of coal in 1978 would exceed that of 1977 by three to four million tonnes and the stocks of coal today are nearly 12 million tonnes. This was stated by Mr. P. Ramachandran, Minister of Energy, while inaugurating the Science Block of Indian School of Mines at Dhanbad, recently.

The Minister said that after last year's floods the coal industry had practically returned to normal. This had been possible due to the collective hard work of all concerned—workers, technicians, supervisors as well as the managerial cadres.

The Energy Minister said that mineral industries in general and coal in particular differed from other industrial sectors in many ways but one of the crucial difference was the comparatively longer gestation period needed for the development of mines. He said that with the best of planning and speedy execution, it took four to five years to develop an opencast mine and eight to ten years to prepare an underground mine. The Minister said that Government had recently identified for clearance more than one hundred coal mining projects and had also approved sizeable investments for the coming years.

The Minister said that the mining industry was becoming a capital-intensive industry. It was, therefore, essential that every effort was made for the optimism of investment to cut down the development period on the one hand and rationalise and synchronize the production efforts on the other. He said that being a wasting asset, the mineral industry needed constant development of new production facilities and any increase in production demanded much greater efforts at the level of planning, construction and production. In addition, regular and substantial inputs like planning inputs, financial inputs and inputs of machinery and laboratory were needed, the Minister said.

Another major input required by all industries but more so by the mining industry was the manpower development. Greater skills were needed at all levels, the level of workman, technicians, supervisors and also the level of planning engineers and managers. The Minister held that in respect of planning and managerial personnel engineering institutes like the Indian School of Mines had to play a basic role. He was happy to note that the School had done remarkably well to service and meet the emerging needs of the fast changing situation. Besides increasing the intake in the basic mining engineering courses, the School had diversified into the area of mining machinery as well. This was of particular relevance in the context of increasing mechanisation of the Indian mines.

The Minister remarked that the service needs and problems of the mining industry should be handled in an integrated manner and with a systems approach. In this context, the Indian School of Mines should develop into an inter-disciplinary centre of studies in the multi-faceted problems of mineral resources in general and coal resources in particular.

Pooled Prices for Paraffin Wax

The Government has decided to introduce pooled price mechanism for

the distribution and sale of both imported and indigenous paraffin wax.

According to this decision, from February 1, 1979, paraffin wax would be sold at a uniform pooled price of Rs. 3,800 per tonne in respect of paraffin wax 140/145°E, Rs. 3,850 per tonne for match wax and Rs. 3,900 per tonne for paraffin wax 140/145° FPI quality.

These prices are ex-Digboi, Calcutta, Madras, Cochin and Bombay (ex-the oil companies storage points).

The Government has taken the decision in the context of large disparities between the prices of indigenous and imported paraffin wax. The pooled price mechanism is expected to improve paraffin wax availability in the country and would help eliminate possibilities of mis-utilisation or diversion of indigenous paraffin wax quotas.

The price build-up beyond oil companies' storage points for distribution to the actual users through the existing net work of dealers appointed by the 'competent authority' of the State or Union Territory would be on the same basis as applicable to indigenous paraffin wax available from the Assam Oil Company's Refinery at Digboi.

The above pooled prices do not have such elements as octroi duty, sales tax, local levies etc. which have to be kept in view by the respective State Governments/Union Territories while fixing the final sale price of the different grades in terms of the Paraffin Wax (Supply, Distribution and Price Fixation) Order, 1972.

The current average CIF price of imported paraffin wax is around Rs. 5,000 per tonne while the landed cost including the various residual duty elements is approximately Rs. 7,000 per tonne.

Currently, around 41,000 tonnes of paraffin wax becomes available every year from the Assam Oil Comapny's Refinery at Digboi. This has been found to be inadquate for meeting the growing demand of paraffin wax in the country. The Government expects that the pooled price mechanism would not only ease the paraffin wax availability but also have a stabilising impact on additional demands for paraffin wax.

This measure would be particularly beneficial to the small scale sector units who were either unable to obtain adequate quantities of indigenous paraffin wax because of limited availability or were not in a position to go in for imported paraffin wax which was far more expensive.

Paraffin wax is used in manufacture of candles, matches, tarpaulins, textiles, tyres & cables, pencils and crayons, food wrappers, etc.

Alongwith introduction of pooled price mechanism, Government have allowed the uniform across the board increase of 20 percent in the paraffin wax quotas of all States and Union Territories. In view of the expected free availability of paraffin wax at a uniform price, following implementation of the pooled price mechanism, State Governments would be free to project their additional requirements of imported paraffin wax over and above the revised quotas to the converned oil companies (Bharat Petroleum Corporation Ltd., Indo Burma Petroleum Co. Ltd. and Assam Oil Co. Ltd.) or the Ministry of Petroleum, Chemicals and Fertilisers.

Performance of IPCC

According to its annual report for the year 1977-78, Indian Petro-Chemicals Corporation Ltd., sold a higher quantity of its manufactures than in the previous year. The realisation, however, was lower due to a substantial reduction in the sales price of the major product-DMT. Gross sales for the year, however, were higher than previous year because of sale of imported products carried out as a part of the market seeding programme. The initial operation of the naphtha cracker and associated utilities resulted in considerable expenditure. This, together with the reduced realisation on DMT, resulted in a lower gross profit than in the previous year.

It is proposed to utilise the available surplus mainly for capital expenditure on projects under implementation, replacements and additions to plant and machinery, financing imports under the market seeding programme and repayment of loans during the year.

Production of xylenes and DMT in the Aromatics Plant surpassed the earlier record of 1976-77. Production figures for each of the financial years since production commenced in 1973-74 are indicated on the next page.

The production of DMT in the year under report was 25,556 tonnes exceeding the installed capacity by over 6 percent. In the case of ortho and mixed xylenes, production was 19,773 tonnes which constitutes 84.14 percent of the installed capacity, while in the case of paraxylene production was 13,307 tonnes, forming 78.28 percent of the installed capacity.

The higher production has been achieved through a number of research

Production (Tonnes)

	Annual Installed Capacity (Tonnes)	1973-74	1974-75	1975-76	1976-77	1977-78
DMT	24,000	5,169	13,344	19,018	24,094	25,556
Ortho and Mixed Xylenes	23,500	9,855	9,431	12,225	16,797	19,773
Paraxylene	17,000	1,204	7,764	12,412	12,225	13,307

and technical studies and improvements as well as by increasing plant availability through further improved preventive maintenance.

During the year, the plant operated without any loss of time/accident for a continuous period of 276 days. This wat a record since the start-up of the plant.

The year was marked by the completion of construction and testing of all the utilities and of several units of the Rs. 3,500 million Olefins Complex. The construction has been completed in respect of all utilities, the naphtha cracker, the benezene unit, the pyrolysis gasoline unit, the butadiene unit, the three polymer plants for producing polyethylene, polypropylene and polybutadiene rubber as well as the ethylene glycol and linear alkyl benzene plants. These respresent Rs. 2,890 million out of the total to date. Cash expendditure on these projects during the year under report amounted to about Rs. 580 million.

The utilities and offsite systems were first commissioned and operated. This was followed by the commissioning of the naphtha cracker in March 1978. To date, production has been established in all the units mentioned above with the exception of Linear Alkyl Benezene Plant, where commissioning operations have started. The following products have been obtained : ehtylene, propylene, butadiene, benzene, carbon black feedstock, low density polyetheylne, polypropylene, polybutadiene rubber, and ethylene glycol.

All the utilities and offsites systems have been commissioned. Those commissioned during the year include refrigeration, flares, incinerators, effluent treatment, liquid filling for railway and road wagons, drum filling, sixteen sub-line railway siding and shunting engines, liquid and gaseous raw material receiving facilities. Approval of the Government of India has been received for the installation of a 25 MW captive power plant at a cost of about Rs. 56.80 million. Engineering work is in progress.

Construction of these projects was started in 1975 and is almost completed and testing and precommissioning activities are in progress. Start-up operations are expected to commence from October, 1978.

Approval of the Government of Indi has been received for the (a) expansio of the capacity of the DMT Plan from 24,000 TPA to 30,000 TPA at an estimated cost of Rs. 56 million (b) setting up of a plant for the manufacture of 10,000 TPA of Acrylate at an estimated cost of Rs. 136.7(million and (c) setting up of a plan for the manufacture of 55,000 TPA of PVC at an estimated cost of Rs. 433.50 million.

The demand for orthoxylen increased during the year under report. Therefore, 4,408 tonnes of orthoxylene was imported to supplement the production. Sales (including the imported material) during the year amounted to 22,910 tonnes as against 17,807 tonnes in 1976-77.

Total sales of mixed-Xylenes during the year amounted to 2,231 tonnes as compared to 2,121 tonnes in 1976-77.

Sale of solvent CIX increased from 961 tonnes in 1976-77 to 1,417 tonnes in the year under review.

Sale of DMT achieved an all-time record of 23,647 tonnes and was substantially higher than in the previous year (18,440 tonnes).

Notable Step-UP in Agricultural Production

The year 1978 is a year of many firsts in agriculture and allied fields. There had been breakthroughs in wheat and rice production and in rural development.

Comparative figures of foodgrains production for 1977-78 and 1976-77 reflecting progress are :—

(Million tonnes)

Crop	*Production*		*Percent increase or decrease*
	1977-78	1976-77	
Rice	52.67	41.91	(+) 25.7
Wheat	31.32	29.00	(+) 8
Jowar	11.82	10.52	(+) 12.3
Ragi	2.90	2.04	(+) 42
Small Millets	2.11	1.75	(+) 20.6
Barley	2.30	2.34	(—) 1.5
Bajra	4.7	5.8	(—) 19.5
Etc.	—	—	—
Total Cereals	113.806	99.805	(+) 14.0
Gram	5.45	5.42	(+) 0.5
Tur	1.88	1.72	(+) 9.4
Other Kharif Pulses	2.256	2.166	(+) 4.1
Other Rabi Kharif	2.202	2.044	(+) 7.7
Total Foodgrains	125.604	111.166	(+) 13

It will be seen that food production in 1977-78 exceeded 125.60 million tonnes, notwithstanding the unprecedented floods this year.

Commercial crops like sugar and cotton also registered record yields, as is evident from the production figures given below :—

Crop	*Unit*	*Average of* 1971-72 *to* 1975-76	1976-77	1977-78
Sugarcane	Million tonnes	132.8	153.0	181.6
Oilseeds*	Million tonnes	8.98	8.3	9.46
Cotton	Million bales of 170 kgs. each.	6.42	5.84	7.12
Jute and Mesta	Million bales of 180 kgs. each.	6.47	7.10	7.12

*Includes production of five major oilseeds (groundnut, rapeseed and mustard, linseed, seasmum and castor seed), as also safflower, nigersed and provisional estimates of soyabean.

Sugar production has also increased as is evident from the following :—

Year	1973-74	1974-75	1975-76	1976-77	1977-78
Sugar production (million tonnes)	3.948	4.797	4.264	4.843	6.5
Annual growth rate (percent)	1.9	21.5	(—) 11.1	13.6	24.2

The irrigation potential was increased by 2.6 million hectares in one single year, an unprecedented achievement, the world over.

India topped the world in phosphatic fertiliser consumption registering a 37 percent increase in a single year as against an average of 2.8 percent the world over.

For the first time, since Independence, foodgrains, particularly rice was available for the asking at reasonable prices even in traditionally deficit areas like Bombay, Kerala and West Bengal.

The country is now moving fast towards lesser dependence on monsoons partly because of the extension of irrigation facilities and the evolving of high yielding, short duration, disease resistant, varieties of various crops. This is contributing in reducing fluctuations in production and lesser and lesser dependence on monsoon and greater stability in production.

There is now a sizeable stock of foodgrains. There was about 19 million tonnes of foodgrains in July 1978. This buffer stock provides comfortable cushion to deal with the normal inter-seasonal fluctuations, in addition to meeting the requirements of public distrbution system. The stock is built on the basis of voluntary offers of surplus grains by producers.

The record production has been due to a well determined policy. The incentive-oriented policy included remunerative prices for the farmers at prescribed minimum support prices and procurement prices.

As a result of record production, comfortable food situation and reasonable price level the Government is in the process of returning 2 million tonnes of wheat loan of Soviet Union. Some quantity of food has been supplied on loan to friendly countries of Vietnam, Afghanistan and Sri Lanka, some quantity of rice also is being exported to Mauritius.

Concerted efforts are now being made to further step up production. Special programmes for production of pulses and oilseeds are under implementation. Seed production programme is being strenthened and efforts are also being made to extend the cultivation of non-traditional oilseeds like sunflower and soyabeen.

In cotton production emphasis was on increasing the output of medium staple cotton. An integrated pest control cum incentive expansion programme for cotton was taken up in Gujarat to cover an area of 1 million ha. Transplanted cotton was produced over an area of 30,000 ha. in Gujarat. Similar pilot efforts are envisaged for Maharashtra and Karnataka. As cotton production is a high major intensive task, it is proposed to make the country self reliant in cotton supply from indigenous sources.

In the next five years beginning from this year, an additional potential of 17 million ha. is to be created. This will include 8 million ha. under major and medium irrigation and 9 million ha. under minor irrigation schemes. The addtional area irrigated from various sources in 1977-78 was 2.6 million ha. over the previous level. The highest increase is in irrigated area in any country in any single year. The investment on major and medium irrigation schemes which yielded an additional potential of 1.46 million ha. during 1977-78 amounted to Rs. 9630 million exceeding the previous year's investment by Rs. 2560 million. The public sector outlay and institutional finance for minor irrigation was also substantial raised.

During 1978-79, it is proposed extend irrigation area by 3.4 millio ha. The ambitious minor irrigati programme under implementation i volves construction of about 275,0 dug wells, installation of 250,0 private tubewells, 5,000 deep tubewe and 300,000 electric pumpsets. T public sector outlay for this massi programme has been further rais to Rs. 2,350 million as against R 2,060 million. The institutional finan is expected to the tune of Rs. 4,0 million in the current year as again Rs. 2450 million last year.

Science and Technology

Second Indian Satellite

The Satellite for Earth Observatio (SEO), the second Indian Satellit will be launched this yar. SEO is first step towards evolving an opera ional satellite based remotesensin system for earth resources survey an environmental monitoring. It will co lect data of relevance in the areas meteorology, forestry, hydrology an oceanography.

The 425kg SEO with sensors is bein fabricated in India and will be launch ed from the Soviet Union. It would b launched in a 525km circular orbi with an inclination of 510. The esti mated orbital period is 95 minutes.

The primary payloads of SEO are tw slow scan TV camereas and two frequency passive microwave radio meter. One TV camera will operat in 0.54 to 0.66 micrometer (visibl band) and the other in 0.75 to 0.8 micrometer (near infrared band). These cameras will pick up reflecte

lar radiation from the ground during ay-time. Each picture frame will "see" n area of 325 sq. km with a resolution f one km. These will provide infor- nation on vegetation mapping, forestry, ater resources and mountain ranges.

The microwave radiometer system will perate at 19.35 GHz and 22.235 GHz requency bands. The system will monitor the fluctuation of microwave adiation from sea-surface yielding nformation on sea state and meteoro- logy during night time.

An experimental data collection system for measuring hydro-meteorological parameters such as wind velocity, pres- sure temperature and precipitation using unattended platforms located in remote areas has also been included. SEO will act as a realy to transmit the data collected by these platforms to a central processing station. Eight plat- forms distributed all over the country will be operating with SEO for this work.

In addition to these sensors forming the payload, SEO will conduct technological experiments which will aid in the design of future satellites. These include heat pipe experiment, thermal control experiment and solar cell experiment.

Two ground stations are planned to receive the telemetered data from SEO. These will be situated in Sriharikota and Ahmedabad. These two stations will cover most of the land mass in India and the oceans surrounding the peninsula. Sriharikota will have the tracking and telecommand facilities. The entire mission operations including orbital predictions and quick look data analysis will be carried out by this station.

The Ahmedabad Centre has the res- ponsibility of interacting with various user agencies in the country. The responsibilities are to distribute various types of data products to principal in- vestigators; to conduct ground truth surveys before and during the SEO operations; and to evaluate the utility of SEO data for various applications.

User agencies will supply the field data for SEO data utilization. The user agen- cies include Geological Survey of India, Ministry of Agriculture and Forestry, Central Water and Power Commission, India Meteorology Department and various universities.

The involvement of Indian Space Research Organisation (ISRO) in SEO project has created a tremendous amount of awarenes among the various user agencies about the need for satel- lite based remote sensing for manage- ment of natural resources. There is a wealth of ground based data in the country with various user agencies and the addition of satellite based data is expected to yield updated and timely information on various resources. The most important aspect is that ISRO has provided a common platform for different resource managers to discuss their mutual problems and arrive at optimum possible solutions to some of these.

Another major gain of this project is the creation of a strong infrastructure for handling and judiciously utilizing the volume of data that would be made available once the SEO satellite is in orbit.

As a sequel to SEO, it is planned to orbit an Indian Remote Sensing Satellite.

New ISI Standards

Indian Standards Institution (ISI) has published Indian Standard prin- ciples of design, construction and use of liquid-in-glass thermometers (IS: 8787-1977) which specifies principles of design, construction and use of liquid- in-glass thermometers of solid-stem as well as enclosed-stem types. This standard deals with such aspects as design, suitability of materials con- struction, graduation and figuring, ins- criptions and recommendations for testing, use and storage of thermo- meters.

Liquid-in-glass thermometers are used in industry, laboratories, teaching ins- titutions, homes, hospitals, etc, where- ver measurement of temperature has any significance. As these thermometers are fragile and are designed to serve large variety of purposes, it is impor tant that they conform to some specific sets of requirementt depending on their end use, so that they provide depend- able service and are easily replaceable in case of breakage. For this prupose, it is considered necessary to lay down general guidelines for formulation of specification for such thermometers.

ISI has also published the first revision of an Indian Standard Specification for varnish, mixing (IS:340-1978), which prescribes requirements and methods of sampling and test for the material commercially known as varnish mixing. Mixing varnish is used as bind- ing medium in fillers and colour coats. This revision has been prepared based on the recommendations of an Ad hoc Panel specialy set up for revision of published Indian standards on paints and allied products. In the test for drying time, use of water proof abrasive papers has been prescribed in place of pumice powder. In the test for flexibility and adhesion, application of the material

by brushing or spraying has been specified.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturer desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Copies of the standards are available from the offices of the Indian Standards Institution located at New Delhi, Ahmedabad, Bangalore, Bhopal, Bhubaneshwar, Bombay, Calcutta, Chandigarh, Hyderabad, Jaipur, Kanpur, Madras, Patna and Trivandrum.

IJIRA's Latest Developments

A chemical formulation has been developed for softening of hard roots and cuttings at well as for upgrading of lower grades of fibre. The chemicals are cheap, easily available and can be applied to jute in watery solution. The chemicals have no adverse effect on jute and machinery parts. The findings of a few trials in some of IJIRA's member mills have proved to be very encouraging in softening of hard barky roots, reduction of cuttings and for upgrading of lower grades of fibre. Mills interested in trying out this process may contact Applied Chemistry Division, Indian Jute Industries Research Association (IJIRA,) 17 Taratol aRoad, Calcutta-700053.

Considering the poor mechanical condition of the existing jute looms, IJIRA undertook quite a number of projects to improve the physical condition of the loom with a view to improving the productivity and efficiency. Such attachments and gadgets including metallic lay, metallic box, improved shuttle release arrangement and oscillating back rest have been designed, fabricated and put under trial run at the IJIRA Pilot Plant. Now 8 looms are under industrial trial at two member mills. With such midification it is espected that 10% gain in speed could be achieved by bringing stability in the lay and box assembly. Being encouraged by the design espect quite a number of design aspect quite a number of mills shown eagerness to go into such modification and placed formal enquiry with the IJIRA. The other mills interested to know details on the above may contact A. K. Mitra, Head, Mechanical Processing Division, IJIRA.

Electric Furnace Steel Making in India

India's domestic consumption of steel has shown an optimistic trend from 5.543 million tonnes in 1973-74 to 7.213 million tonnes in 1977-78, an average increase of 7 percent per annum. This growth becomes more significant when the recessionary trends in the international market during these years are taken into considertion.

The draft plan 1978-83 projects a domestic demand of steel of the order of 10,960 million tonnes for 1982-83, an average growth rate of 8 percent per annum. For 1987-88 the tentative projections are placed at 15 million tonnes. Achieving this level of production will call for immense efforts and huge capital investment. Considering the industry's experience in designing and constructing new plants in the last twenty years, it should not be difficult for India to achieve this modest rate of growth and for its economy to consume the steel so produced. In fact the potentials are much greater and growth can faster. Even with this envisaged grow steel consumption comes to 14 kg/ye

Even this small consumption of 14 kg unequally distributed with 20 perce of the urban population accounting 66 kg as against hardly 1.5 kg for t rest 80 percent of the country and rur population. Increase in purchasi power of rural population is necessa for increased consumption of steel.

On the production front, the integrate steel plants have shown commendab performance. In the last five yea from net inporter of steel, Indi became net exporter, though th position has since changed. The capa city utilisation increased from 64. percent in 1973-74 to 90.3 percent i 1977-78 percent. Production i 1978-79 is likely to exceed the produc tion of 1977-78 substantially.

With the completion of expansion pro grammes of Bhilai to 4 million tonne and of Bokaro to 4.75 million tonnes production in the integrated plants i likely to reach about 10.2 million tonnes in 1982-83, rising to about 11.5 million tonnes before the end of next five yea period.

Contribution of mini steel sector is likely to be of the order of 1.9 million tonnes in terms of bars and wire rods in 1982-83 growing to 2.5 million tonnes in 1986-87 onwards, almost fully utilising the present installed capacity. However, this will not be enough to meet the demand of bars and rods of the country.

In both the terminal year 1982-83 and 1987-88, there will be large gaps in the availability of shapes, mainly in the

egories meant for secondary pro-
cer, that is, bars and rods and light
tions. Plans to bridge the gap are
ot and will call for creating additio-
capacity in one or more locations.

ile every effort is being made to
kle the problems facing the integrated
l plants and complete the expansion
grammes without any further delay,
IL is fully aware of the importance
l the potition of the electric arc fur-
e industry in particular. Electric
furnace industry has its own advant-
s as well as problems. It has
wn remarkable growth in the
ee years. According to the figures
en out by Steel Furnace Association
India, the liquid metal production
w from 965,000 tonnes in 1974-75
.65 million tonnes in 1977-78, with
8-79 estimates placed at 2 mil-
n tonnes. Inspite of many constrai-
the industry has shown remarkable
formance and should be able to
ieve its targets for this year.

e mini steel industry, the most import-
part of the electric arc furnace
ustry, has a very vital role to play
meeting the demand of steel of the
ional economy. It has an installed
acity almost one-third of the integra-
plants. Even though the production
the mini steel industry has been
reasing every year due to the far-
ited policies of the Government
l the measures and concessions an-
nced from time to time and the
rts made by the industry itself, it is
l operating below its capacities.

e measures and concessions announ-
l by the Government in July 1977,
re as a result of the reports of the
consultants, Dastur and Company
l MECON appointed specifically
study the problems facing the in-
try and recommend for its revival.

Product to mini steel industry is now duty free; excise duty on scrap was abolished, import of scrap does not attract customs duty, licensing of finishing mills was liberalised, diversification to lower alloys and special steel was alloed, soft loans for modernisation of the industry was provided etc. These concessions by the governement and efforts made by the industry have no doubt helped it in growing but still a lot more it needed to be done to take the industry to a sound and stable footing.

For healthy and stable development of the mini steel plants, their growth has to be more orderly and regulated taking into account the availability of power, scrap and market in the proposed place of location.

Product-mix is another factor which has considerable effect on the viability of a unit. Electric arc furnace is very versatile, one can produce almost any steel in smaller tonnages. But switch-over to higher alloys overnight is not practicable and one has to graduate over a period from production of carbon steels to lower alloys and then to higher alloys. Many units among the mini steel industry have started competing with the larger alloy steel plants in producing and marketing lower alloys which is a healthy sign. However, scope to produce higher alloy steels is rather limited for the present. The mini steel industry in general will have to be content with the production of carbon steels mainly for some time to come. The industry can, however, take up production of light sections required by the power transmission industry both for domestic and international markets. State Electricity Boards have indicated large requirement which the integrated steel plants would not be able to satisfy and could be met by mini steel plants and rerollers.

It would be desirable that uniform power rates are considered for this power intensive industry throughout the country and in the event of shortfall in generation, pro-rata reduction be applied rather than drastic cutting off. In future installation/expansion of an electric furnace/mini steel plant should be permitted only after a firm commitment for power supply from the concerned State Electricity Board is made.

As for scrap, both the reports of the consultants had recommended that a centralised trading agency should take up collection, processing and distribution of scrap at rational prices. Time cycle between generation of scrap and its re-use is very large. Scrap passes through a number of hands before it reaches the consumer and even then it remains, by and large, unprocessed. Reduction in time cycle will help improve collection and bring a certain amount of stability in the scrap market. It would help considerably if a centralised organisation could watch availability and consumption and arrange for imports speedily when home demand goes up due to higher consumption.

It would be better if the electric furnace industry could consider creating a buffer stock of say 400 to 500 thousand tonnes both from home arisings at well as from imports so that the scrap prices could be more stable and logical rather than speculative. The governement has already removed customs duty on the imported scrap which should help the industry considerably in stabilising the price and availability of scrap.

While scrap remains the most important raw material for mini steel plants and electric furnaces, its availability will not be able to keep pace with the growth of the industry and its requirement in furture. In this respect sponge

iron could partly replace scrap and its development is a must for the country. Of two sponge iron units; one with UNDP assistance in Andhra Pradesh based on SL/RN technology is being set up. Another sponge iron plant is being planned in Orissa in collaboration with Allis-Chamers of USA with a different technology. Both these units are likely to be on stream by 1980.

The R and D of SAIL is setting up an experimental unit at Ranchi in collaboration with HEC at a cost of Rs. 40 million to try Indian raw material using different technologies like rotary kiln, retort and shaft reactor.

In course of time the country would be able to select a right technology suitable to its raw materials and develop more plants in different parts of the country. Till then the industry would have to depend on proper collections and processing of indigenous scrap supplemented by the imports. However, the development of sponge iron must be done at top priority.

Success of sponge iron technolo producing iron without use of c coal would also help in dispersal of industry to areas outside the tradit region based on local materia would also be easier to set up a sm plant based on sponge iron requ much less investment than setting of a minimum size large integrated based on conventional technolog blast furnace.

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Milan International Fair, Milan (Italy)	April, 14-23, 1979
Thessoloniki International Fair, "TEXTILLA"—Thessoloniki (Greece)	April, 24-28, 197
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July, 1-9, 1979
Damascus International Fair, Damascus (Syria)	July, 4-23, 1979
Mozambique International Fair, Mozambique	August, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September, 3-10, 1979
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Tehran International Fair, Tehran (Iran)	September, 1979
Baghdad Interniational Fair, Baghdad (Iraq)	October, 1979
Cican Annual Trade Fair, "FIISSA" Santago (Chile)	October 25 to November 11, 1979
International Furniture Fair, (MEUBEL FAIR) Brussel (Belgium)	November, 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March, 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition in Mexico	Dates to be fixed
Indaian Exhibition at Bangkok (Thiland)	Dates to be fixed

For further detailes, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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News Highlights

Indian Economy in Good Shape

According to the International Monetary Fund (IMF), the Indian economy continues to be in good shape and that its overall performance during 1978 has been satisfactory. This has been concluded by IMF after an annual inspection of the Indian economy. IMF team which visited India recently, in its report notes that the prevailing satisfactory position is due, inter-alia, to good food situation and balance of payments position. India has repaid all the borrowings from IMF in July last. The IMF report has found that the balance of payments position is sufficient to offset the deficit in the current account even in respect of 1978-79.

PM Inaugurates Sri Lanka Project

The Prime Minister of India, Mr. Morarji Desai, inaugurated the Kotmale Power Project in Sri Lanka during his recent visit to that country. Speaking on the occasion, Mr. Desai said that it was a matter of pride that an Indian firm was associated with the preparation of the feasibility report for the Project. He assured that India shall always be ready to make available resources for the

(*Contd. on page 2*)

Export Performance and Potential

Indo-Sri Lanka Economic Ties Stressed

The Prime Minister of India, Mr. Morarji Desai, inaugurated the Kotmale Project in Sri Lanka recently. Inaugurating the Project, Mr. Desai said that the Project was the first in a series of reservoirs and power stations of the Mahaveli Development Scheme. This project alone would produce 150 megawatts of electricity which would be a valuable contribution towards a better life for the people of Sri Lanka. The soaring vision of those who conceived this great national project would be truly justified by the reality in the irrigation and power facilities which it made available to the people of Sri Lanka, he added.

India's Prime Minister further observed that it was a matter of some pride that an Indian firm, Water and Power Consultancy Services, was associated in preparing the feasibility report of the Kotmale Project and that this firm was selected by an international agency to get this job in competition with similar firms from developed countries. He added that although India was not a rich country and her main wealth consisted of her people and their skills, yet if India had in some small way been able to contribute that skill to the development of one of her neighbours, that indeed made her worthy of herself. He assured that India shall always be ready to make available similarly these and other resources for the further development of Sri Lanka as indeed if so desired by other developing countries as well.

The Prime Minister said that Sri Lanka Government had dedicated itself to the task of economic development and both the countries could help each other and profit from each other's experience.

The Prime Minister expressed happiness to be in a part if Sri Lanka mainly concerned with the tea industry which played an important role in her

development of Sri Lanka. He added that both the countries could help each other and profit from each other's experience. (Page 1)

Notable Rise in Capital Goods Exports

There has been upswing in India's exports of capital goods in 1978. During April-October, exports of steel structures (fabricated) rose by over 100 percent to Rs. 346.3 million as against Rs. 162.6 million in the corresponding period in 1977. Export of industrial plant and machinery went up by almost 50 percent to Rs. 337.7 million as against Rs. 212.2 million in the previous year. (Page 3)

EEC Delegation Visits Engineering Fair

A large delegation from European Economic Community (EEC) visited the Third Indian Engineering Fair in New Delhi recently. The delegation expressed the view that there was great scope for increasing bilateral trade and economic cooperation between India and the EEC. The leader of the delegation underlined the need for exchange of more information, understanding, organisation and initiative between India and the EEC.

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economy. Many persons of Indian origin had contributed their labour to establish these fruitful and profitable plantations, he added. He believed that many of them would become valuable citizens of Sri Lanka while others were choosing to become equally valuable citizens of India.

The Prime Minister hoped that the Project would be a significant contribution to the economic well-being of the people of Sri Lanka and greater understanding would be built between the two countries.

In the joint press statement issued at the end of the visit emphasis has been laid on economic and trade matters and closer cooperation between the two countries. During the talks, particular attention was paid to the question of pursuing action for the increase of the trade between the two countries and the establishment of joint ventures in the industrial and export promotion zone.

In his speech at the banquet hosted by Prime Minister of Sri Lanka, Mr. Premadasa, the India's Prime Minister stressed the need for closer economic relations between the two countries. He said that it was India's privilege to welcome the President of Sri Lanka to India recently. At that time it was concluded that India and Sri Lanka had no problems. More positively, it was found that there was a common desire to strengthen bilateral relations between the two countries and to seek ways in which they could help each other in their common endeavour of economic development. Mr. Desai continued, "Our Governments have already taken the first step to work towards this desired end. It must be our constant endeavour that we realise the hopes that have been aroused from this new cooperation by sufficient concrete prepartion and action, to bring into being joint projects and cooperation as quickly as possible."

The India's Prime Minister added that Sri Lanka had launched forth into purposeful economic activity under the able guidance of the Prime Minister of Sri Lanka. He believed that with Sri Lanka's natural endowments in terms of resources and the great abilities and skills of her people, there was a great future ahead for their country. Mr. Desai continued," We this can be true of all the countries of our sub-continent and that by joining our hands together we can in many ways accelerate our progress. India will certainly not be found wanting in playing its full part in this common effort, and our skills, our resources and our technology to the extent they are available, are at the disposal of our friends and neighbours".

India and Norway to Collaborate in Oil Exploration

India and Norway have agreed to step up inter-action between the two countries in the field of oil exploration. Norwegian technology, equipment and expertise could be combined with the know-how, experience and manpower of Indian oil exploration agencies in an advantageous manner. The Norwegian Minister of Petroleum and Energy Minister, Mr. Bjartmar Gjerde, who visited India recently had discussions with Mr. H.N. Bahuguna, Union Minister for Pertoleum, Chemicals and Fertilisers.

Welcoming the Norwegian Minister, Mr. Bahuguna said that there were a number of areas in the field of offshore oil exploration in which India and Norway could fruitfully collaborate with each other. India, for instance, was desirous of exploring prospective structures in the deeper continental shelf and Norwegian experience and expertise in this regard could be useful for India in extending its search of oil to the deeper waters.

Another possibility, the Indian Minister said, could be cooperation between the two countries in offering assistance to third countries in offshore exploration.

The Union Minister said that with the growth of offshore exploration and production in Bombay High offshore areas and the proposed extension of operations to the deeper waters and other parts of the shelf, India had to develop its offshore technology and the two countries could exchange ideas in this particular field.

The Minister said that during his visit to Norway in June 1978, one of the points discussed related to the assistance that Norway could offer in estimating offshore oil gas reserves and this idea could be pursued further.

Thanking Mr. Bahuguna, the Norwegian Minister said he considered his visit as a starting point for increased cooperation between the two countries in the field of oil exploration which was important both to Norway and to India. The visiting Minister said that Norway had in the last few years emerged as a substantial producer of oil and gas. This had provided a huge stimulus to the Norwegian industries in the supply of equipment for oil exploration and development.

The two Ministers agreed that concrete proposals for cooperation and collaboration between the two countries might be evolved by experts from both sides.

The Norwegain Minister, also called on the Union Minister for Comerce, Civil Supplies and Cooperation, Mr. Mohan Dharia. The two Ministers discussed measures to step up trade between the two countries, which at present was of a very low volume. They also discussed possibilities for cooperation and collaboration in production, setting up of joint ventures in third countries and exchange of trade delegations.

Upswing in Capital Goods Exports

Exports of capital goods registered notable growth in 1978. During April-October, exports of steel structures (fabricated) rose by over 100 percent to Rs. 346.3 million as against Rs. 162.6 million in the corresponding period in 1977. Export of industrial plant and machinery went up by almost 50 percent to Rs. 337.7 million as against Rs. 212.2 million in the previous year.

There were noteworthy gains in the field of export of complete vehicles, pressure vessels and heat exchangers.

Export orders in hand on December 1, 1978 were of the order of Rs. 10,844.8 million while on December 1, 1977, they were Rs. 8,894.5 million.

Export of engineering goods has been showing marked increase since early seventies. Against an export of goods worth Rs. 1,252.7 million in 1971-72, the provisional figures for 1977-78 were Rs. 6,250 million. Between April-October, 1978, engineering goods worth Rs. 3,732 million had already been exported.

Hike in Export Earnings of Indian Films

The Indian Motion Pictures Export Corporation (IMPEC) increased its exports in 1977-78 to Rs. 5.36 million against the target of Rs. 4 million. The previous year's exports were Rs. 3.23 million. During the current year IMPEC hopes to achieve a target of Rs. 6 million.

According to the annual report of the Corporation for 1977-78, IMPEC made a record profit of Rs. 1.49 million during the year compared to the previous year's profit of Rs. 0.82 million. This constitutes almost 60 percent of the share capital of the company which is Rs. 2.5 million.

The previous year's accumulated losses which had gone up to Rs. 2.78 million at the close of the year 1975-76, were reduced to Rs. 1.96 million in the year 1976-77. This has been further substantially reduced to Rs. 470,000 at the end of the year.

IMPEC's foreign exchange earnings during the year increased to Rs. 3.40 million from Rs. Rs. 2.57 million in the previous year.

The export strategy developed and implemented during the year was a two-pronged expansion of the export market. Firstly, exclusive agreements were entered into with the State agencies of ten foreign countries and secondly, greater efforts were made to study in-depth the export potential of the Indian films. The exports of the Corporation through exclusive agreement with Afghanistan, Algeria, Burma Iraq, Mozambique, Nepal, Oman TV, the USSR, the Maladives Islands and Tunisia and other markets rose from Rs. 3.23 million in the previous year to Rs. 5.36 million, registering an increase of 66 percent. Similarly, export of films under the canalisation scheme rose from Rs. 80.22 million in 1976-77 to Rs. 109.42 million in 1977-78.

In order to reach the foreign buyers, film markets are organised by IMPEC during the International Film Festivals. Apart from selected screening of Indian films, the foreign buyers are exposed to regional films. This effort at the last

International Film Festival (Filmotsav 1978) at Madras, introduced the reginal films to the foreign buyers for the first time. Export orders worth Rs. 3.12 million were finalised during Filmotsav 1978.

Trends in Cotton Textiles Exports

According to half-yearly report of the Cotton Textiles Export Promotion Council, the exports of cotton textiles during the period April-September 1978 improved marginally to Rs.2371 million as compared to the performance of Rs. 2315.7 million during the corresponding period in the preceding year. Exports of cotton piecegoods, cotton yarn and hosiery during the period lagged behind the levels reached last year but an improvement in the shipment of garments contributed to the increased performance. The fall in regard to cotton piece goods was of the order of 25 percent at Rs. 638.9 million. Exports to most of the major markets, particularly to EEC, USA etc. were lower during the period under review. The fall in regard to cotton yarn to the level of Rs. 58.70 million is a little more than 50 percent. Exports of cotton hosiery also declined by about 50 percent to a level of Rs. 47.8 million. Exports of other cotton manufactures amounted to Rs. 203.1 millio which represented a fall of about percent.

The following table I gives the figur of export of cotton textiles during th period April-September 1978 as well in April-September, 1977.

As against the target of Rs. 550 million fixed for 1978-79, India exports amounted to Rs. 2371. million during the first half of the cur. ent financial year. The following tabl II gives the targets fixed for individua items of cotton textiles during th current year (1978-79).

Table I

(Rs. 10 million)

	Cotton Piece-goods (millmade and powerloom)	*Yarn*	*Garments*		*Hosiery*	*Others*	*Total*
			Millmade	*Handloom*			
April-September 1978 (Estimated)	63.89	5.87	74.23	68.03	4.78	20.31	237.11
April-September 1977	84.47	12.73	57.18	42.76	9.60	24.83	231.57

Table II

	Cotton Piecegoods	*Cotton Yarn*	*Cotton RMG*	*Cotton Hosiery*	*Cotton Mfg.*	*Total*
1978–79	200	30	250	25	50	555

The main reasons for the shortfall in exports were slack demands in EEC and USA etc., recessionary conditions, fall in dollar value, boom in domestic market, etc.

The Council has taken a number of steps to improve the level of offtake to various markets. Publicity campaign in the overseas markets has been intensified. The Council has also participated in exhibitions held in overseas markets. The Council's participation in the Moscow Exhibition has been very helpful, as it enabled the country acquaint the buyers with the wide range of qualities. The Council has also drawn up programmes to send delegations and study teams to various markets. With all these steps, it is hoped that during the remaing period, exports may step up and by the end of current year the shortfall in exports may not be as large as envisaged earlier.

The Council's publicity and propaganda efforts for the promotion of exports of cotton textiles were continued through illustrated folders, brochures and advertisements in foreign journals and special supplements of Indian journals. During the period under review, the Council participated in the number of exhibitions held abroad, such as in Milan, Zambia, Damascus, Stockholm, Moscow, Tehran and Cologne.

Exports of textiles including fabrics made-ups, readymade garments and knitwear of cotton. wool and man-made fibre of millmade and powelroom origin are subject to quota for shipmen to USA. Items of handloom origi of blouses, men's and boys shirts ladies dresses, trousers for men and boys, women, girls and infants are also subject to quota restriction. Shipment were allowed both against quot reservation and free shipment upto the quantity earmarked for each item.

Free shipments in respect of readymade

garments, fabrics and made-ups were continued during April 1978. In case of EEC countries where the quantitites earmarked for free shipments got exhausted, additional quantities were drawn from the second six-monthly period and distributed so as to clear the stocks piled up in the trade.

The Council's overseas offices at Frankfurt and Sydney, continued to carry-out a series of activities to promote exports of cotton textiles. The main activities are keeping the Head Office informed of the developments in the region in respect of market conditions, demands, fashion changes, respective governments' import policy etc. Regional offices at Ahmedabad, Bangalore, Calcutta, Coimbatore, Indore and New Delhi continued to assist the trade and industry in solving their problems, and also kept the Head Office informed of the problems and developments in the respetctive regions. The Council's Port Offices at Madras and Cochin continued to assist shippers in the matters of quota endorsements on shipments from the respective ports.

Indo-British Trade Trends

According to a commercial report from the High Commission of India, London, India regained her favourable balance in trade during the month of October 1978. India's total export during the first ten months (January-October) of 1978 amounted to £280.64 million compared to total imports of £280.10 million, giving a visible favour-trade balance of £0.5 million. During the same period of 1977, the visible trade surplus was £95.7 million, with exports amounting to £324.87 million. India's exports during the month of October 1978 stood at £40.27 million-the highest level revorded so far during the year in a single month and higher than October 1977 as well. The comparitive resurgence in exports during October 1978 was an encouraging feature, and it is expected that the trend will continue.

During the January-October 1978, India exported a total of 24,384 tonnes of tea to Britain. This was 62.39 percent less than the quantity exported during the corresponding period last year. There was also a slight decline in the per tonne unit value realisation of tea and this contributad to a comparatively larger fall in the total value of tea exported from India. Total earnings from tea during the period were £31.04 million compared to £84.27 million during January-October 1977.

There was an increase in India's export of unmanufactured tabaccoo during the period under report compared to the position during 1977. India's total exports were 26,633 tonnes which were 11.26 percent higher than exports during the corresponding period last year. There was 2.5 percent fall in the per tonne unit value realisation during 1978. The earnings from tobacco rose from £30.85 million to £33.46 million.

India's exports of textiles during the period were unable to maintain the level reached during 1977, except in the case of women's and girls' wear where there was a slight recovery in exports, because of better unit value realisation.

Total quantity of oilseed cakes exported was 66,144 tonnes valued at £4.98 million. Leather of goat and kid skin recorded an increase over exports in 1977. However, there was a decline in exports of leather of bovine cattle, sheep and lamb skin. As against the total export of 7,446 tonnes valued at £22.16 million of bovine cattle, sheep and lamb skins during January-October 1977, India's exports during 1978 have been 6,826 tonnes valued at £17.67 million. Leather footwear also showed some improvement in exports during 1978. Total earnings from leather footwear were £2.62 million compared to £2.32 million.

There was a substantial improvement in the per tonne unit value realisation in respect of spices. As against £542 per tonne during 1977, the unit value stood at £811 per tonne during 1978. Export of spices during January-October 1978 showed an increase over 1977. India's total exports during 1978 were 2,939 tonnes valued at £2.38 million compared to 1933 tonnes valued at £1.05 million during January-October 1977. The increases over 1977 were 52.04 and 127.43 percent respectively. Except in the case of domestic untensils of copper, there was a decline in the export of engineering goods from India to UK. In the case of handtools, India exported 15 percent more in terms of quantity.

There has been a notable increase in the exports of castor oil from India during 1978. As against the total quantity of 434 tonnes a valued at £0.23 million during January-October 1977, the exports during 1978 stood at 4,882 tonnes valued at £2.16 million.

Other items where there was some increase in exports during January-October 1978 were sports goods, crustaceans (fresh or chilled), gums, resins and lacs. However there was a decline, in India's exports of curstaceans (prepared or preserved). In the case of travel goods, the earnings from these items were 30 percent higher than 1977, mainly due to improved unit value realisation.

During the month under review, a high-powered official and commercial

delegation led by Mr. P.K. Kaul, Additional Secretary Ministry of Commerce visited UK for bilateral discussions with British importers and import organisations, and the Department of Trade. Discussions were aimed at increasing bilateral trade flows and in particular, higher level of exports from India to UK. During discussions, 14 items were identified for a special export thrust into the UK market. These items are : diesel eingines and parts, machine tools, MS pipes and tubes, scientific and surgical instruments, electric power machinery such as switchgear and control gear electric motors, forgings, industrial castings, wire ropes, pumps, air compressors and parts, travel goods, sports goods, leather footwear and marine products.

Both sides agreed to examine the possibility of setting up a special trade development fund which would be used to implement an action programme for increased exports of identified items from India to UK by increasing the marketing input, through participation in specialised trade fairs and export delegations and by preparation market development and product adaptation probiles. It was also agreed to that a system should be devised for trade information by each country. It was also agreed that exchange of information relating to changes in product designs and styles would facilitate the growth of trade, and that Indian personnel egaged in testing and inspection of products, should visit British organisations doing similar work with a view to hrmonisation of practices. The quality of shipping services between India and UK was discussed and the British side agreed to take up this matter with their approproate authorities.

Preferential Tariffs for Additional Items

In terms of the First Agreement on Trade Negotiations among developing member countries of the Economic and Social Commission for Asia and the Pacific (ESCAP) popularly known as the 'Bangkok Agreement', India, a signatory of the said Agreement, has extended preferential tariff to certain goods imported from the participating countries which have ratified the Agreement.

Accordingly, Customs Notification No. 431 was issued on November 1, 1976, extending preferential tariff to 12 items imported from Bangladesh, Republic of Korea and Sri Lanka, provided the goods imported from these countries comply with the rules of origin, framed thereunder. The items are dried fish, dessicated coconut, coconut oil (refined), molasses, cocoa-beans, natural graphite, fluor-spar and fluorite, cinnamon leaf oil, tyres and tubes, gypsum board plaster, ferro-silinco and G1/MS pipes (seamless tubes). With effect from April 1, 1978 these preferences were also extended to Laos.

In pursuance of recent negotiations, the Government of India has decided to accord tariff concessions to four more items namely, cloves, nutmegs and mace, glycerine and natural rubber when imported from these countries. Keeping in view the trade flows between Bangladesh and India, the Government of India has completely exempted timber when imported from Bangladesh. These tariff preferences on the additional items have been brought into force with effect from January 27, 1979.

Higher Rates of Customs Drawback

The provisions of the Customs Act, 1962 relating to the grant of drawback were recently amended by adding new sub-section 1(A) to section 75 of the Custom Act, 1962. The amendment was carried out with a view to making the drawback fuller by deeming those materials as imported in respect of which India was the net importer. This was done to meet the long-standing demand from the export interests of the country who had been representing that in working out the all–industry rates of drawback, the department adopted weighted average of customs and central excise duties borne by the total material available in the country by way of import and local production. This did not ensure a full relief from duties for exports in many cases. Such manufacturers/exporters had to come again to the Drawback Directorate for fixation of brand rate. This process took considerable time.

The Government has now notified copper, zinc and lead as deemed to be imported materials under the aforesaid provisions of the Customs Act, 1962 in October 1978. The revised rates of drawback on this basis have since been announced effective from October 25, 1978 in respect of articles made of copper, zinc and lead. The increase in the rates of articles made of copper is about 240 percent over the existing rates, in the case of articles made of zinc about 2 per cent and in the case of articles made of lead about 28 per cent. The revision of rates in respct of other export goods in the manufacture of which the aforesaid materials are used, is also round the corner.

With the announcement of the above higher rates of drawback, it is hoped that the need for fixation of individual brand rates will be considerably reduced, if not altogether eliminated.

Those manufacturers/exporters whose applications for drawback brand rates

re still pending can avail themselves of the all industry rate for their exports from October 25, 1978. Suitable instructions are being issued to the Collectors concerned.

Exchange Value of Rupee

In the recent weeks, the international currency market has been characterised by wide fluctuations in the exchange rate of several major currencies. With a view to imparting a measure of stability to the exchange rate of the rupee and country's international transactions, the Government of India has reviewed the working of the exchange rate arrangements under which the exchange rate of the rupee is determined with reference to daily exchange rate movements of a selected number of currencies of countries which are India's major trading partners.

Accordingly, Government has issued on January 29, 1979 an order under section 40 of the Reserve Bank of India Act, 1934 (2 of 1934) which modifies the existing notification issued on September 24, 1975.

In accordance with the new order effective January 30, 1979, the value of the Indian rupee will be maintained within a wider margin of 5 percent (as against the existing margin of 2.25 percent) on either side in terms of a suitably weighted currency basket. The intervention currency will continue to be the pound sterling and the Reserve Bank will fix the buying and selling rates for the pound sterling adjusting them from time to time in conformity with the above policy.

The middle rate of Rs. 16.50 per pound sterling announced on December 20, 1978 remains unchanged for the present.

Industrial Growth and Diversification

Alloy Steels Production Up

Production of saleable steel in the Durgapur Alloy Steel Plant (ASP) during December, 1978 registered an increase of nearly 43 percent over production in the corresponding month of the last financial year. The plant produced 5,060 tonnes of saleable steel during December, 1978 as against the output of 3,540 tonnes in December, 1977. Capacity utilisation rose to over 101 percent in December from about 95.6 percent in the previous month. ASP had suffered a production loss of 2,000 tonnes of saleable steel, valued at Rs. 36 million due to floods in the Eastern Region last September. In addition, damage to the plant and equipment was estimated at Rs. 0.75 million.

Meanwhile, the first phase of the on going expansion of ASP to raise the plant's annual capacity from 100,000 to 1,60,000 tonnes of ingot steel is under way and will be completed by the and of 1979 at a cost of about Rs. 84.6 million. This includes the creation of additional melting facilities in the plant by installing one electric arc furnace unit.

In the second phase of expansion, as approved by the Board of the Steel Authority of India Limited (SAIL), ASP's capacity is to be raised further 160,000 tonnes to 260,000 tonnes of ingot steel per year. The proposal, which will cost Rs. 467.5 million, is currently under examination for a final investment decision. The scheme envisages the installation of one continuous slab casting machine to process the additional steel. This will not merely increase the productivity of the electric furnaces through the setting up of units for secondary refining but also facilitate the production of better quality steels.

Record Production of Locos and Coaches

Production of locomotives at the Diesel Locomotive Works (DLW) and of passenger coaches at the Integral Coach Factory (ICF) of the Railways during nine months (April-December) of the current financial year has been the highest ever achieved during this period in any year.

The Diesel Locomotive Works, Varanasi produced 102 diesel locos and power packs during April-December 1978 as compared to 95 manufactured during the same period in 1977. The total value of the production at the DLW was Rs. 340 million.

The Integral Coach Factory, Perambur, Madras turned out 566 coaches during the first 9 months of the current financial year as against 491 coaches manufactured during the last corresponding period. The production at this is valued at Rs. 325 million.

Drive for Mineral Development

About 33 Research and Development schemes, with a total outlay of Rs. 106.3 million have been cleared by the Department of Mines this year to speed up mineral development and to develop indigenous know-how in non-ferrous metallurgy. The Department's Plan Implementation Committee on Science and Technology, set up last in April, 1978 will monitor and review the R and D programmes of the various public sector undertakings to be implemented over a period of five years in the area of minerals. The schemes in-

clude those relating to improvement in the quality of copper, the setting up of a Geo-data Centre for Mineral and Earth Sciences under the Geological Survey of India (GSI) at an estimated cost of Rs. 25.2 million and the promotion of indigenous know-how for the production of alumina.

Of the ten schemes sanctioned for the Hindustan Copper Limited (HCL), one relates to the recovery of cobalt from the Indian Copper Complex convertors' slab which is at present being wasted and improved recovery of copper through the processing of low grade (oxide and lean sulphide) copper ores at the Malaujkhand Copper Project. To ensure safety in the copper mines, it is proposed to develop collapsible steel supports in the underground mines which would be strong enough to withstand the effect of blasting. The scheme to increase facilities for extractive metallurgy in zinc provides also for recovery of metal from the various residues generated in processing.

It is proposed to set up a Central Ore Dressing Laboratory and pilot plant at Nagpur under the Indian Bureau of Mines (IBM) at a cost of Rs. 18.5 million to treat more samples by the magnetic and other techniques to evolve parameters and flow sheets for commercial plants.

The Geological Survey of India (GSI) will set up a Geo-data Centre for mineral and earth sciences at a cost of Rs. 25.2 million. It is also proposed to develop Geophysical instrumentation and techniques for geothermal exploration, promote experimental analysis of the geometrical properties of ripples and studies on bauxite. The Bharat Aluminium Company (BALCO) will implement a scheme for bench scale and pilot testing facilities in bauxite, at a cost of Rs.11 million, as part of the drive to develop indigenous technology in the processing and know-how to reduce dependence on foreign technology in the sphere of alumina.

The schemes for the Indian School of Mines in Dhanbad and the Mineral Exploration Corporation (MEC) include a project for the benefication of low grade deposits of Kyanite, studies of mineralised belts, a new method to enable mine planning at reduced cost and projects to replace the conventional dry drilling for faster work at reduced cost.

Significant progress has been made in regard to the R & D projects sanctioned in previous years under the Science and Technology Programme of the Department of Mines, which started with a couple of schemes in 1976. Investigations have been completed for the recovery of Scheelite-a strtegic mineral-from the tailing dumps of sands, and scheelite concentrates of acceptable grades have been produced in the pilot plant. Samples of the concentrates have also been supplied to the users under scheme which was taken up by Bharat Gold Mines Limited (BGML) in collaboration with the Indian Bureau of Mines in 1976-77.

The seismic project of (BGML) launched in 1976-77, is scheduled for completion by March this year, in collaboration with the Bhabha Atomic Research Centre (BARC). The scheme consists of a network of geophones, field amplifiers etc. which pick up and record signals from rock bursts that occur in and around mining areas in the Kolar Gold fields. This helps in locating areas of high seismic activities underground and plan better mining methods for the safer and more economic explotation of gold deposits. This project for the study of rock bursts and the means to control them would help not only the BGML but also other mining concerns.

The other ongoing schemes include installation of pilot plant to improve the copper refining process pilot plant for zinc ore dressing at Debari to be commissioned this year, and the establishment of a Geo-data Centre, sanctioned last July, for the compilation of data on all mines, mineral deposits and their utilisation which would be made available to the planners and executive agencies.

Duty Concession on Certain Items

The Government of India has reduced the import duty on cellulose acetate sheets andstrips from 189.3 percent to 75 per cent *ad valorem.*

As cellulose acetate sheets and strips are mainly used in the manufacture of spectacle frames, the reduction in import duty on these items is expected to encourage the spectacle frame industry, which is mainly in the small-scale sector.

Isobornyl acetate, the basic raw material used in the manufacture of camphor, attracts on import a customs duty of 75 percent *ad valorem.* Having regard to the need to make available the raw material at reasonable prices and with a view to making the indigenously produced comphor competitive with the imported one, the Government of India, has reduced customs duty on isobornyl acetate imported for manufacture of camphor from 75 percent to 40 percent only. The concessions came into force with effect from January 27, 1979.

Stepping Up Hydel Power Development

The Chief Ministers of Jammu and Kashmir (J and K) Himachal Pradesh, Punjab and Haryana, and Power

Ministers of Rajasthan and Jammu and Kashmir, who met recently at New Delhi under the Chairmanship of the Union Energy Minister, Mr. P. Ramachandran, decided that in view of the growing power needs in their States the hydro-electric resources in J and K and Himachal Pradesh should be developed for the benefit of the entire region. Two projects namely Nathpa-Jhakri hydro–electric project in Himachal Pradesh and Dulhasti in Jammu and Kashmir could be taken up by the National Hydro Power Corporation and Koldam Project in Himachal Pradesh on the pattern of the projects executed by Bhakra Management Board.

The meeting was convened by the Union Energy Minister, Mr. P. Ramachandran to discuss the possibilities of identifying hydro-electric projects in Jammu and Kashmir and Himachal Pradesh.

Mr. Ramachandran drew the attention of the meeting that Himachal Pradesh and Jammu and Kashmir had vast potentialities for hydro-electric power development. The assessment of hydro-electric development resources carried out in 1953-59 placed the utilisable hydro potential in J and K at 2.91 million KW and in Himachal Pradesh at 3.5 million KW respectively.

Later assessment based on investigations carried out in Himachal Pradesh and in Chenab basin indicate the possibility of development of much larger hydro power, approximately 8 million KW in Himachal Pradesh and 6 million KW in Jammu and Kashmir. Thus, there remain large untapped hydro-electric resources in both the States which can be exploited to meet the power requirements of the Northern Region in an economical manner.

The Chief Ministers of different States and the Power Minister of Rajasthan were all of the unanimous view that considering the growing power needs in the States, hydro resources should be developed quickly for the benefits of all the States in the region. The Union Energy Minister put forward that Nathpa-Jhakri Hydro-electric Project in Himachal Pradesh and Dulhasti in J and K could be taken up by the National Hydro Power Corporation and Koldam project in Himachal Pradesh could be taken up on the pattern of the projects executed by the Bhakra Management Board.

Investigations in respect of all these projects are more or less complete and the Central Electricity Authority will be asked to examine these projects with a view to taking early investment decisions. It is estimated that between these three projects a total sum of Rs. 10,000 million will be required to instal 2,000 MW.

It was agreed by the Ministers that a meeting at the official level could soon be held to discuss the details of the projects to be undertaken for execution and to evolve a modality in respect of sharing of power and cost of the projects. It was also agreed that the Energy Minister would take a meeting with the Chief Ministers again after the officers had met and submitted their report.

Growth of Aeronautical Industry in India

The Aeronautical Industry in India is now almost forty years old. What was started as a joint venture between the industrialist Walchand Hirachand and the princely State Government of Mysore has, over the years, grown into one of the biggest public sector undertakings in the country, employing about 40,000 people, and with an annual turnover of more than one thousand million rupees. It is one of the biggest public sector undertakings of the Government of India with its factories in Bangalore, Nasik and Kanpur producing various airframes, Bangalore and Koraput various engines, and Hyderabad and Lucknow various aeronautical systems. Its impact on the country is much wider than these simple figures indicate.

Aeronautics in a high science high technology apex, industry, requiring support from a large number of other sophisticated high technology industries. Experience all over the world shows that those countries which are known to be technologically advanced have a strong base in aeronautics also. India which has taken a policy decision for reaching rapid industrialisation is trying to build the supporting base industries as well as some of these apex industries simultaneously.

The pattern of growth of the aircraft industry in India has, therefore, been somewhat different. At its inception. it was primarily concerned with development of light aircraft. During the war time, what is now the Bangalore complex of the industry had functioned as a repair base for the South-East Asia Command maintaining and overhauling a variety of aircraft. The policy decision of obtaining a measure of self-reliance had however been taken shortly after the war, after the Government of India bought out the interests of the two shareholders of the company. In its earlier years of growth a number of light aircraft were produced.

It may be said that the major shift in emphasis and the pattern of growth of the aircraft industry took place with the development of HF-24 starting in 1956. Recognising the need for a strong R and D support, Government of India started more or less simulatneously three research and development estab-

lishments in aeronautics in Bangalore namely Aeronautical Development Establishment and the National Aeronautical Laboratory with fairly well delineated tasks. Their responsibility is essentially to offer the necessary back up to the industry and the air force.
What is interesting to note is that when the HF-24 was being designed, none of these research establishments were in existence. This was in contrast to the pattern of development elsewhere in the world. To the extent there is built-in technological absolescence in the aircraft industry, the pace for its growth is generally set by the research and development organisations which are for ever looking for improvements and the industry generally draws upon these resources for its growth. In India this has however not been the case. The development of HF-24 was inspired by the German group and it depended upon the Indian engineer essentially for the detailed design. The result was that the culture of design and development of advanced technology aircraft based upon this exercise did not take roots in India to any great extent. In a sense the establishment of this culture can be attributed more to the development of the jet trainer called the HJT-16 developed for the Indian Air Force by the HAL Design Bureau.
The Government of India, in the late 1960's, appointed a committee to study the situation in the aeronautical industry and come up with recommendations which would ensure a balanced growth of the industry. The committee highlighted the importance of obtaining self-sufficiency in the shortest and most economical means possible and made a number of recommendations. These recommendations highlighted the importance of implementing modern management techniques to obtain improvements in production and plan a well integrated infrastructural base in which the culture of self-reliance in aircraft industry can grow. It also noted the stretch potential of HF-24 aircraft and suggested that every effort must be made to improve the performance of this aircraft as an essential prerequisite to develop other advanced technology aircraft in the future. Current activities of the Design Bureau of HAL are centered around this major exercise.

Recognising the pivotal role of engines in the evolution of new aircraft, the Government of India authorised a major exercise in the Gas Turbine Research Establishment for the development of a demonstrator model of 10,000 lbs thrust class advanced technology jet engine. Indications are that when this engine is developed, it will be comparable to the similar class of modern engines in performance efficiency produced in the other countries and should materially help the pace of indigenisation of the aircraft industry. This is one of the important decisions taken by the Government.

There is also another difficult problem which may be highlighted here. In the industrially developed countries, because of the wide support base that is available, aircraft industry does not face the situation of trying to develop and produce every component and subsystem that are required by it.

The situation in India is quite different. To the extent that the base is not available, the Indian aircraft industry faces the unerviable situation of trying to do everything on its own. Efforts are under way to obtain indigenous sources for a variety of products and actively help the small scale industrialists to respond towards the industry's needs.

For a country as big as India, a fair degree of self-reliance in aeronautics is not only essential but imperative. To the extent it is a developing country trying to lift itself from bootstraps, a measure of licenced production is inescapable in the near future. There has been generally close cooperaion between the R and D institutions and the aircraft industry and an active search for various means by which the aircraft under production in India can be improved as a first step in increasing the self-reliance. The Indian approach in aeronautics will necessarily be a mixture of licenced production of some advancing technology aircrafts and engines, indigenous development of variants of these and new aircraft, and seeking coolaboration with other countries at the design stage itself for development of new aircraft. It is hoped by the 1980's India will have established a substantial degree of self-reliance. The industry is basically healthy but it needs far more inputs for the design and development of prototypes of aircraft and engines on experimental basis for more rapid progress towards indigenisation.

Railway Captive Power Plants

Railways have revived their proposal to set up three captive power plants to meet their increasing demands of electricity. The power plants of 110 MW capacity each are proposed to be set up at Murad Nagar in Uttar Pradesh, Sone Nagar in Bihar and Salanpur in West Bengal. The concerned Ministers are being approached by the Railways in this matter. This was disclosed by Prof. Madhu Dandavate, Minister for Railways, recently in New Delhi while inaugurating the Conference of the Chief Electrical Engineers of the Zonal Railways, and the Research, Designs and Standards Organization of the Railways.

Prof. Dandavate also said that replacement of the old assets in the only full-fledged power station of the Railways at Kalyan has been recently sanctioned to enable it to generate more power.

The Minister further announced that electrification of all such railway stations where power was available nearby, would be completed by the end of the year. So far, 5,008 of the 7,879 railway stations on the Indian Railways have been electrified. The remaining stations would be electrified under a phased programme depending on the availability of power nearby.

The Conference was informed that efforts were continuing to improve the standard of facilities provided in trains. In five percent of the coaches, dynomos have been replaced by alternators which are less prone to thefts, thus ensuring continued supply of power inside the running trains.

Trials are being undertaken for provision of fluorescent lights in the coaches through Inventors. This will not only save power, but give brighter lights. Railways also propose to introduce 110 volts system in the trains in replacement of the present 24 volts system. This will reduce the risk of fire and increase the power carrying capacity. The Integral Coach Factory of the Railways has been asked to fit some rakes with this system.

The introduction of mid-on-generation of slow speed branch line trains has been successful. This process makes generation of power independent of speed and number of halts.

The Minister remarked that this will go a long way in improving travel canditions of trains particularly on the branch lines.

The Railway Minister noted that it was a matter of pride for the electrical engineers of the Indian Railways that the air-conditioning equipment used in the air–conditioned coaches has been fully indigenised within the last 2-3 years. Until 1975, the air conditioned coaches built by the Integral Coach Factory were provided with completely imported air-conditioned equipment. Moreover the reliability of Indian air-conditioning equipment is as good as that of the imported one. This significant development has prompted the Railway Board to take a policy decision that ordinary first class coaches will be replaced by two–tier air-conditioned coaches on all long distance through Mail, Express and Superfast trains. The Indian Railways have already introduced 38 self-generating two-tier air-conditioned coaches on several trains.

Standards of Weights and Measures Rules

The date of implementation in respect of the new provisions of the Standards of Weights and Measures (Packaged Commodities) Rules, 1977 has been extended by a further period of six months. Consequently, these provisions which were to come into force on February,1, 1979, would now become operative from August 1, 1979.

These provisions relate, among others, to packaging in rationalised standard quantity, area of the principal display panel and size of the letters used in the mandatory marking, prohibition of deceptive packages and of the use of vague and misleading nomenclature such as, Jumbo', 'giant', 'king' etc. This extension has become necessary to enable the Government to examine in depth the various representations on the Rules received from different sectors of trade and industry and take a final decision on them.

It is recalled that the other provisions of the Rules relating to mandatory marking on the package in regard to the name of the commodity, the name and address of the manufacturer or packer, the net contents, the date of packing and the price, have already come into effect from September 26, 1977.

More Funds for Rural Electrification

Nearly 4,000 new villages will be electrified and over 37,000 pumpsets and tubewells energised in different States under 100 new projects sanctioned by the Rural Electrification Corporation. A total loan assistance of over Rs.280 million will be provided for the execution of these projects.

A significant feature of the new sanctions are 51 projects sanctioned under the new scheme of Special Project Agriculture to finance, in collaboration with commercial banks, large-scale energisation of irrigation pumpsets and tubewells in potential areas. Over 25,000 tubewells and irrigation pumpsets will be energised under these projects to give a fillip to agricultural production.

The new sanctions include 14 System Improvement schemes for 7 States involving a loan assistance of about Rs. 90 million. These schemes, aimed at conserving energy and improving the distribution system in rural areas, are expected to save, on completion, more than 21 million units of energy annually which can be utilised for further productive purposes.

In the new schemes more than Rs. 210 million have been approved for the extension of electricity to backward and other areas included in the Revised Minimum Needs Programme.

Under its recently introduced scheme of financing the programme of pro-

viding drinking water in villages, two more projects have been sanctioned.

With this the Corporation has so far sanctioned more than 2,500 electrification projects all over the country involving an aggregate loan assistance of over Rs. 9,600 million. These projects together will cover more than 163,000 villages and energise around 11 million irrigtion pumpsets and tubewells. The programme also envisages energisation of more than 150,000 small-scale agro-based and other industrial units which will considerably help in the creation of new employment opportunities in rural areas.

Already the Corporation has disbursed more than Rs. 5,600 million for the implementation of electrification projects in 21 States.

Science and Technology

Development of Busducts by BHEL

Over the last decade, Bharat Heavy Electrical Limited (BHEL) has emerged as a leading manufacturer of Busducts. With the introduction of 10 kA and 8 kA design, requirement of the largest sizes of generators, being manufactured in the country have been met.

Development work on Bus duct, which is used a generator-transformer connections in power stations, started in BHEL around 1964. In the initial stages non-segregated and segregated busducts were developed. Based on this experience, the development of discontinuous type isolated Phase Busducts (IPB) ated 4 kA was undertaken. The first IPB rated 12 kV, 4 kA was installed at Harduaganj Thermal Power station around 1967-68, gradually higher rating of dis-continuous type of IPB design upto 7 kA were developed.

Extensive tests have been done during the past decade for the development of busducts. Efforts were made to improve the design as a result of which, continuous type is olated Phase busducts were developed during 1974-75 and first such busducts rated 8 kA have been instaled at Nagarjun sagar Hydro-electric Project. Subsequently continous type IPB rated 10 kA have been devloped and supplied with 210 MW turbo-generators.

All the designs have been throughly tested in line with the national and international standards.

The confidence level thus gained, has enabled BHEL to enter into the export field also. Two sets of busducts comp with associated equipment are presently under manufacture for Tripoli West Project, Libya.

The entire range of busducts has been developed indigenously by BHEL. This is in line with BHEL's philosophy of self reliance in engineering field.

To prove the design and to establish design data, a large number of development and type test are necessary. These lests have been carried out at the Shops and also at the reputed testing Stations and institution like switchgear Testing and Development Station, Bhopal, School of Earthquake Engineering University of Roorkee, etc. The various development and tests carried out are described below:

This 6 kA, 13.8 kA, discontinous type design was developed for 120 MW sets. The temperature rise tests were conducted at the University of Roorkee, as initially the facilities were not available with BHEL for very high currents. A variety of joints were incorporated in the arrangement. It was established that with modification in the bo joint the design can be uprated to 6, Amps. Subsequently, a non-meta black paint, suitable for Alumini bus bars was developed. This impro the capacity of arrangement furth Test carried out later in the Wor showed satisfactory results at 7,(Amp current.

This design has been subsequen tested for short time current of 60 for 1 second and impulse withstand 95 kvp.

10 kA, 24 kV, Continuous type desig was developed to meet the growir demand for 210 MW set. The prototy was subjected to temperature rise, sho time current and impulse voltage tes Currents flowing in the enclosure ci cuit were also measured approximatel and it was established that enclosur currents in continuous design are com parable to the conductor currents The busbars were painted with mat black paint to improve heat dissipation and thereby current rating.

Type tests on 4 kA, 7 kA and 8 kA designs for these ratings have been type tested as per customers requirement. However, designs were based on the experience with ratings tested earlier and results predicated by calculations were very closely met in actual tests.

Recent designs of 8 kA and 10 kA ratings are also subjected to water gightness test at the factory. For this a representative section of Busduct is subjected to the test.

BHEL has also designed and tested busducts to meet siesmic requirements. One of its design of 4000, rating was tested at Roorkee University and this design has been supplied to one of the Hydro-Electric power stations.

The equipment was subjected to a base

acceleration of about 0.5g at resonance frquencies for 30 seconds in each directions.

As the generator and grid capacity becomes larger, the corresponding fault levells also increase. For 500 MW sets faults levels on main and tap-off busducts will be of the order of 115 and 215 kA respectively. Short circuit testing facilities in the country are limited to about 70 kA for such tests. It has, therefore, been planned to test main and tap-off busduct sections at KEMA Holland. The tests are expected to be completed during shortly

With a view to providing better service and to meet the growing power demand of the country, some of the areas in which work is being done are as follows: (i) development of busduct for 500 MW set, (ii) Standardisation of busduct and associated electrical equipment, and (iii) Improvement in designs based on past experience.

The work on this has already been started. For testing of prototype with forced air-cooling, the required heat exchanger and blower arrangement have been provided and tests have been planned in the next few months. Keeping into consideration the maintenance aspects, natural cooled design has also been worked out and is under persual.

Busduct contract calls for co-ordination on a variety of aspects related to layout, matching up at generator and transformer terminals and selection of associated electrical equipment e.g. CTs, PTs, surge protection and neutral grounding equipment.

With very ambitious programme for power generation in the country, it is essential that execution cycle of the individual products is brought down. Standardization of layout and protection schemes of power stations may help in a big way to cut down the execution cycle of the products including busduct, This will also result in optimising the efforts of various agencies.

BHEL has already supplied busducts for about 25 nos. generating sets in the country. The prouct is also being offered for export market and 2 sets of busducts complete with CTs, PTs, surge protection and neutral grounding equipment are under execution for Tripoli West, Libya, Some of the mjaor power stations equipped with BHEL busducts are-Harduaganj, Santaldih, Chandrapura, Ukai, Gandhinagar and Koradi Termal Power Stations Chibro, Ukai, Pong, Dehar and Nagarjunasagar Hydro Power Stations and Rajasthan Atomic Power Project, Kota.

NRDC Awards for Inventions

National Research Development Corporation of India (NRDC) has announced Republic Day (1979) awards for meritorious inventions and for students invention talent and invention essay contests. Awards for meritorious inventions are announced on Republic Day and Independence Day every year. Awards for students have been set up to foster the spirit of inventivity amongst the younger generation, and these are announced only once in a year.

Awards totalling Rs. 17,000 for five meritorious inventions have been given to 8 inventors. The Corporation has also announced financial asisstance amounting to Rs. 10,000 for development of one invention.

Two awards of Rs. 5000 each have been given to Mr. Satyendra Narain Mathru, Superintending Surveyor, Directorate of Survey (Air), New Delhi for development of a simple attachment for taking stereo photos with an ordinary camera and to Mr. Ramesh Chandra Agrawal, Deputy Manager (R and D) of Instrumentation Ltd., Kota for development of a miniature linear DC motor for use in process control instruments.

Financial assistance of Rs. 10,000 has been sanctioned to Mr. Nirmal N. Sehgal of New Delhi for developing a multi-fuel device for automobiles.

Details of these awards and financial assistance are given below :

Mr. Satyendra Narain Mathur, Superintending Surveyor, Directorate of Survey (Air) New Delhi has been given an award of Rs.5,000 for development of a simple attachment for ordinary camera which enables taking of stereo photos. The attachment incorporates the use of mirrors to obtain two different views of the same object from two different locations on one negative. The copy printed on a bromide paper and viewed through stereo viewer provides a stereo photograph.

Mr. Ramesh Chandra Agrawal, Deputy Manager (R and Dr Instrumentation Ltd., Kota has been awarded Rs. 5,000/- for making a miniture linear DC motor for use in process control ins truments. This motor eliminates linkages, gears and bushes used in similar motors. By using ceramic permanent magnetic material, the inventor has improved upon the conventional AC motors using alnico thick magnets thereby simplifying its use and increasing its efficiency.

Dr. Jiwanesh Kumar Sinha and Messrs P. Kunhunny and Subhrendu Bagchi of Central Mining Research Station, Dhanbad have been jointly awarded Rs. 3,000 for development of a dust extractor-a safety device used for collection and disposal of dust produced during electric rotary drilling and

compressed air drilling. This dust extractor also suppresses air borne re-respirable dust in drilling atmosphere.

Messrs Shankerbhai Pujiram Patel and A. Rajagopalan of Ahmedabad Textile Industry's Research Association, Ahmedabad have been jointly awarded Rs. 2,000 for development of fibre bundle Strength tester. This instrument is used to measure the strength of cotton and man-made fibre-bundles in textile industry.

Mr. G. Natarajan of Trivandrum has been given an award of Rs. 2,000 for the development of a mechanical coalfeeder for Hoffmann Kiln in tile industry. This feeder is an alternative to pneumatic coal feeder and ensures positive and continuous feeding of coal into kilns with the help of a screw rotating inside a barrel.

Mr. Nirmal N. Sehgal of New Delhi has been sanctioned a financial assistance of Rs. 10,000 for development of a device for automobiles. The device aims at pre-heating the fuel prior to its entry into the carburettor. With the help of this device, it would be possible to use diesel and kerosene in place of petrol as fuel.

Student awards are given both on all India basis as well as at state level. Thirteen awards on all India basis and 86 awards at State level totalling Rs. Rs. 20,245 have been announced for students in the invention talent and invention eassy contests held in the year 1977-78.

In the Invention Talent Contest, Mr. Ramachandra Dixit of Govt. G.B.D.T. College of Engineering, Devangere (Karnataka) has won the first prize of Rs. 1000 while Mr. Jose George Maliakal, Birla Public School, Pilani (Rajasthan) got the second prize of Rs. 800/-

In the easay contest for senior students the first prize of Rs. 600/- has been given to Mr. Vijay R. Kane, L. D. College of Engineering, Ahmedabad and the second prize of Rs. 500 to Mr. Suresh Bajpai of University Visveswarya College of Engineering, Bangalore. In the junior group of easay contest the first prize of Rs. 450 has been given to Mr. Ashok Pandy of Century Rayon School, Thana (Maharashtra) and the second prize of Rs. 350 to Mr. I.C. Bensley of Seshasayee Instt. of Technology, Trichy.

Indigenisation of Defence Production

The Union Minister of Defence, Mr. Jagjivan Ram, recently announced that Bharat Electronics Limited (BEL), a defence public sector undertaking, will soon take up a project for the manufacture of glass shells for TV picture tubes for the first time in India.

He said the dependence on expensive imported glass shells for the picture tubes had been an important handicap in the growth of TV industry and Government of India had set up a committee which had recommened that Bharat Electronics would be the right organisation to undertake the manufacture of this material. The project would take about two years to mature, he added.

The Defence Minister was speaking at a function to release the design and manufacturing know how of the solid state TV receiver developed by Bharat Electronics which will now be disseminated freely to TV set manufacturers.

The Minister noted that Bharat Electronics has been a pioneering organisation which had contributed remarkably not only to increasing self-reliance in the field of defence production but has also been meeting impor civil needs and stimulating the gro of electronics industry in the coun This function marked a signific new step in the latter direction, added

The Minister held that electronics h come to play a very crucial role in walks of life, and yet, the possibili of future development were unlimit The world of electronics was a fascin ing field, ranging from small consur articles to what has come to be kno as electronic warfare in which electro equipment serve in some situations weapons in themselves. Thus , o looked at it from the point of view defence of the country or improvi the standard of living of the peop or improving the working of factori and services,one would meet electroni everywhere.

He was glad to note the electronic industry—which was a highly sophis ticated and precision field—had mad rapid strides in India.

Referring to the field of defence the Minister observed that the country had now achieved total self-reliance in army signals communication. For the air force, the BEL was now supplying fire-control radars as well as long-range surveillance radars. The Vijayanta tank was also fitted with electronic equipment made by BEL. Even on the naval warships-the frigates-the electronic equipment made by the same organisation was being used.

The Minister stressed that what was more important than making of equipment was to undertake one's own research and design. He felt glad that the BEL had been paying attention to this aspect also. It had also been meeting civil needs. In the beginning, BEL started by supplying receiver valves which

re used in almost all the radio sets ade in India; for transistorised radios, e Bharat Electronics had been supply- g both germanium and silicon tran- stors; recently they had started manu- acture of integrated circuits so that the onsumer industry could have the atest components. This kind of inter- ction between production capacity eveloped for defence requirements and ivilian needs was a welcome deve- opment. He added that new efforts hould be made to strengthen the inter- ction between such large-scale manu- acturing and development organis- tions as BEL on the one hand and the mall scale electronics industry on the ther.

The production organisations and the ndustrial units in the defence sector eeded to work out detailed measures owards this end. He noted that some rogress had already been made and his function, marked as important tep in the same direction.

Referring to assurance bythe Chairman of BEL that the T V set has been so developed that the full engineering and manufacturing know-how could be absorbed by the small scale industry while at the same time ensuring high quality standards, he suggested that BEL should sponsor wide-ranging seminars with the participation of experts from the small scale scetor so that total dissemination of manufactur- ing know-how could take place and the problems of the small scale industry in absorbing and utilising this know-how were thrashed out.

The Defence Minister continued that many people, especially in other coun- tries , had criticised the rather slow development of the T V medium in India. But, in retrospect, the slow development in the initial phases seem- ed to have been of great advantage. He added that during his visits abroad, he had noticed that some of the develop- ing countries went in for repid expansion of T V net-works whose needs could only be satisfied by dependence on foreign sources of equipment. But it was not merely the question of depend- ing on foreign equipment. Since these countries expanded the T V medium too rapidly, they were not able to develop their own programme know- how and programme capabilities within the short time frame in which they sou- ht the spread of T V As a result, in some of these countries there was heavy dependence upon programmes imported from abroad, that is programmes which were not always relevant to the life and culture of the people. The Minister opined that as a result of such depend- ance, the real purpose of going in rapid- ly with the expansion of T V as a medium of communication to satisfy social, economic and cultural needs had not been served properly. He added that in India the expansion of T V transmission network and the dev- elopment of country's own programme capabilities had gone somewhat hand in hand. He held that Indian industry may be criticised for the lack of sohis- tication in its programmes, bu+ that sophistication had now taken roots in that aspect also and the TV producers, cameramen and others are producing good programmes.

Having developed this programme capability, the main problem today was that of shortage of programme pro- duction hardware and lack of adequate reach for the TV both in terms of the transmission net-work and the limited audience on account of high cost of reception facilities.

The Minister urged upon those enga- ged in the electronics industry to devote urgent attention to these pro- blems. The net-work of micro-wave communication which was coming up in the country would provide the nece- ssary frame-work within which the reach of transmission could be increased. A further boost will be given when the country went in for her own satel- lite communication.

As a result of this development in the field of communication, the country could be said to be at a stage where she might well have the potential for a real fast growth of the reach of TV in terms of the area that it will cover.

The Minister pointed out that the country had to develop adequate hard- ware facilities for production of TV programmes in the field and in the stu- dies. Even more important, perhaps, was the question of bringing the reception within the reach of the com- mon man. Community viewing centres offered but one of the several options that were open to the country. He added that some people would say that TV was basically a home medium and did not lend itself to community viewing. This may or may not be true. He said that the would leave that to the mass media experts to find out. But there were other constraints on com- munity viewing which arose from pro- blems of maintenance as also from certain problems of a social nature in Indian villages. In so far as maintenance was concerned, the industry had to pro- duce, TV sets which required the mini- mum of maintenance. He asked that the manufacturers should devote their urgent attention to this aspect.

The Minister further held that the most important of the problems to be considered was how to reduce the cost of TV sets. Some people advocated that price reduction could be achieved

by economies of scale which could come about as a result of large-scale manufacture. He opined that this may be very well in theory, but he added that the experience of consumers of other goods in this country would not justify the presumption that goods manufactured in the large scale industry were necessarily cheaper. Once large scale manufacturers had driven out the small scale- producer in any branch of production, it was found that the prices soared again. The fact that small scale manufacture could be cheaper in some fields, had been shown in the case of transistorised radio sets. In fact, some of them were very much cheaper than the sets manufactured be large scale industries, without much loss of quality.

The Minister held that the problem had to be tackled both in the large scale manufactures of basic electronic and other equipments which went into TV sets as also in the methods of production that were employed currently by the set-manufacturing industry. Referring to the problem of excise duties, he added that there was a system of differential excise duties.

The Minister observed that the problem of reducing component and manufacturing cost was to be tackled both by the large scale electronics industry and by the TV set manufacturers jointly. He added that very great opportunities were developing for rapid spread of TV network in India. It was for the manufacturers to seize this opportunity by using their ingenuity and by devoting greater attention to design and research activities.

The Defence Minister said that one important aspect of TV industry had been the dependence on imported glass shells for the picture tube. Considerable thought had been given to this i and a committee which was set the purpose, had recommende the BEL would be the right or ation to undertake the manuf of glass shells within the co The BEL will soon be taking up project which will help to put th industry in India on more firm foo The project will take about two to mature and will eliminate the port of this expensive materia hoped that in executing the pro the BEL will keep the question of in mind.

Concluding, his speech the Minister that he was glad to have been give opportunity to release the design manufacturing know-how for the receiver developed by BEL and urged that this inter-action betw BEL and small scale industries in sphere of technical assistance continue to expand further.

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economic and commercial news

News Highlights

India and Indonesia for Greater Economic Ties

At the conclusion of the discussions between Mr. A.R. Shoehoed, Industries Minister of Indonesia with Mr. Biju Patnaik, Union Minister for Steel and Mines, during the former's recent visit to India, a broad framwork of agreement for greater economic cooperation between the two countries has emerged. Indonesia will purchase, inter-alia, two million tonnes of Indian iron ore on a long-term basis from the proposed pelletisation plant at Bailadila in Madhya Pradesh. India has also offered technical assistance by way of consultancy and engienering for the development and expansion of the iron and steel industry in Indonesia.

A Task Force is proposed to be set up shortly to finalise areas of economic cooperation between the two countries to their mutual advantage. (Page 1).

STC to Set Up Office in Africa

India has decided to open a regional office of the State Trading Corporation of India in Africa with a view to boosting trade with African Countries. This was

(*Contd. on page* 2)

Export Performance and Potential

Greater Economic Cooperation between India and Indonesia

A broad framework of agreement for greater economic cooperation between India and Indonesia has emerged at the conclusion of the discussions between the visiting Indonesian Industries Minister and the Indian side. This includes the purchase of 2 million tonnes of Indian iron ore pellets on a long-term basis by Indonesia from the proposed pelletisation plant at Bailadila in Madhya Pradesh. India has also offered technical assistance by way of consultancy and engineering for the development and expansion of the iron and steel industry in Indonesia.

The minutes of the meetings were initialled recently in New Delhi by the Industries Minister for Indonesia, Mr. A.R. Shoehoed and Mr. Biju Patnaik, Union Minister for Steel and Mines. Mr. George Fernandes, Union Minister for Industries who had wide-ranging discussiions with the Indonesian Minister on Cooperation in industries, was present at the signing of the minutes.

It is proposed that a Task Force would be set up at an early date to finalise areas of economic cooperation between the two countries to the mutual advantage of both in the areas of non-ferrous metals; engineering industries including manufacture of machines and machine tools, particularly suitable for small scale industries in Indonesia; power and transport; geological exploration and development of mineral and and other natural resources; design, engineering and technology for the development of steel, cement, sugar and small scale industries; establishment of training institutes for

stated by Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation, on his return to New Delhi recently from 11-day tour of African countries.

India-Maldives Air Services Agreement

An Air Services Agreement between the Governments of India and the Republic of Maldives was concluded at New Delhi recently. According to the agreement, the Indian Airlines is entitled to operate 3 services per week to Male. Similarly, the agreement also provides for the operation of 3 services per week to Trivandrum or Madras by the Maldivian International Airlines. The agreement is expected to further promote closer contact between the people of the two friendly countries and further ssrengthen the existing bonds between India and Maldives.

Export Performance and Potential

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the development of necessary technical manpower; and rural cooperativ with particular emphasis on dairy development.

In steel, the Task Force will finalise programmes in the areas of pellet sponge iron and flat products. Indonesia has offered to make some the sponge iron obtained through conversion of the pellets with natur gas available to India for use in the mini steel plants. This would ad to the capacity of the electric arc furnace industry and enable the mi steel plants to overcome the shortage of scrap. The Task Force will mak in-depth studies in these areas and suggest specific programmes.

It was agreed that Indonesia would draw upon the Indian expertise to th extent necessary and that India would be prepared to consider purcha of nickel, tin and other non-ferrous metals to the extent availabe fro Indonesia.

India offered to supply alumina to Indonesia for conversion into aluminiu metal by using power generated through hydel and gas resources to b developed in North Sumatra. In this connection, it was agreed tha the Indian side would submit a package proposal covering constructio of a dam and a hydel power station. It was also greed that India an Indonesia would collaborate with each other in the location and develop ment of additional gas resources for power generation in this area. I was envisaged that the capacity of India for the manufacture of oil rig for off-shore, on shore and deep-sea drilling would be used in conjunctio with technical know-how from a third country, wherever it was possibl to do so.

The Indian side offered to consider participation in the development of cement plants in Indonesia; this may include the expansion of the two existing cement plants in Indonesia as well as a new plant to be set up in Padang to ensure supply of cement to India as well as third countries on a long term basis.

The Indian side undertook to furnish a project profile embracing (a) the manufacture of machines and machine tools suitable for use in small scale industries of Indonesia, (b) the development of associated engineering and design facilities, and (c) the setting up of a training institute.

The Indian side also agreed to supply requisite information and advise, where necessary, on the promotion and management of small scale industries, protective measures, quality control, supply of raw materials and marketing. India offered to consider purchase of pulp from Indonesia for paper making and also offered to set up a pulp plant in Indonesia.

Indian Garments Exhibition in Tokyo

An exhibition of Indian garments, the first ever to be held in Japan, was inaugurated by the Indian Ambassador to Japan, Mr. Awtar Singh, at Tokyo on February 14, 1979. The week-long exhibition was organised by the Trade Development Authority (TDA) in collaboration with Japan External Trade Organisation at latter's exhibition Hall.

Speaking on the occasion the Indian Ambassador urged the Japanese entrepreneurs to collaborate with Indian manufacturers in the promotion of bilateral trade. He said that a number of leading trading houses in many developed countries had entered into collaboration with Indian manufacturers for buy-back arrangements and Japanese importers could arrive at similar arrangements. The Indian garment industry, Mr. Avtar Singh said, has made rapid strides both in production and exports. Indian garments were exported to over 100 countries including the developed countries in West Europe and the USA, Canada, Australia etc. There was demand for Indian garments at fashion centres like Paris, London and

New York, Japan the Indian Ambassador observed, has a garment market worth over 1 billion dollars per annum. India's share is only 8 million dollars and there was scope to increase it further.

Mr. N.K. Bhardwaj, Executive Director of TDA and Managing Director of Trade Fair Authority of India, said in his speech that the exhibition was a unique event where for the first time 25 leading exporters and manufacturers of fashion garments in India had put on display dresses for all seassons. Although India had been exporting to Europe and USA, it was now concentrating more and more on the Japanese market. The present product coverage, Mr. Bhardawaj said, was restricted only to men's and ladies' casual wear. Indian manufacturers, he added, were keen to diversify to the regular wear market through the cooperation of Japanese firms. He suggested that Japanese firms should work out long-term buy-back arrangements in India in order to ensure quality and consistency in the delivery. Earlier, addressing a press conference, Mr. Bharadwaj briefly explained the role of TDA in the export promotion in the country. India, he said, is keen to diversity its exports to Japan. He expressed the hope that the exhibition would be helpful in this direction.

Speaking on the occasion, Mr. Isamu Ikome, Vice Executive President of Japan External Trade Organisation hoped that economic cooperation between the Trade Development Authority and his organisation will grow further and facilitate promotion of Indian products into the Japanese market.

The inaugural ceremony was attended by over 200 representatives of leading Japanese firms, department stores, import houses and business organisation.

The decision of the TDA to mount a full-fledged garment exhibition in Japan follows growing popularity of Indian garments in that country. The exports of Indian garments and knitwear to Japan rose to Rs. 38 million in 1976-77 from Rs. 10 million in 1975-76, a three-fold increase. Indian designs, colours and patterns blended with vigorous folk traditions hold special fascination for the Japanese buyers and consumers. The uniqueness of Indian designs and prints found instant approval among Japanese buyers.

With appreciation of the yea, Japan is looking towards other countries for procuing high-labour content manufacturers. The export to Japan of these relatively simple items, including garments has shown a spurt in last few years. In addition, the Japanese market is of interest to the Indian exporting community, because of the absence of quota restrictions. To tap the hitherto un-explored Japanese market for Indian garments, the TDA sponsored a Contact Promotion Team to Japan in August last. The Indian team which brought with it samples of men's, women's and children's garments found large potential for Indian garments in that country.

A number of Japanese buyers from leading department stores, importers and wholesalers visited India at TDA's invitation to identify competent and reliable sources of supply. Some of them entered into long-term business arrangements with their Indian counterparts. In collaboration with the TDA, a leading Japanese Department Store, Takashimaya will also organise an Indian Promotion Campaign in April next.

Pak Team's Interest in Engineering Goods

A three-member Industrial Delegation from Pakistan recently came to India to discuss matters regarding increase in the trade of engineering goods between the two countries and to identify areas of industrial cooperation.

The team was led by Mr. M. M. Faruq, Managing Director, Heavy Mechanical Complex, Texila and comprised Lt. Col. (Retd.I A.A. Hashmi,General Manager (Project), Pakistan Automobile Corporation, Karachi; Mr. Masud Beg, Managing Director, Karachi Pipe Mills Ltd., Karachi; and Mr. Fazalur Rahman, Deputy General Manager, Pakistan Machine Tool Factory, Karachi.

The delegation met Secretary, Department of Heavy Industry, Mr. V. Krishnamurthy and Secretary, Steel Ministry, Mr. Mantosh Sondhi. It also visited the Indian Engineering Trade Fair and had discussions with representatives of the engineering industry.

The team also went round visiting, several projects in Delhi, Punjab Haryana, Bombay, Poona, Bangalore, Madras and Bhopal, particularly those relating to manufacture of tractors, commercial vehicles, automobile ancillaries, scooters, steel products, oil engines, machine tools and heavy electrical generating plants and equipment.

It held discussions also with representatative of the public sector enterprises of Bharat Heavy Electricals Limited and Hindustan Machine Tools and of the private sector.

In the preliminary discussions with the Union Ministry of Industry

and both sides expressed interest in developing trade of engineering goods and manufacturing collaboration. The Pakistan team also expressed a desire to be informed of developments in India regarding transfer of technology, development of the capital goods industry, functioning and management of public sectr enterprises, etc.

Indo-Australian Trade Trends

According to a commercial report for November-December, 1978 of the Consulate General of India, Sydney, during the first four months of current financial year of Australia (July-October, 1978) the trend of increased imports from India is continuing. During these months of the year, imports amounted to A$ 36.88 million, compared to exports of A$ 19.54 million. If the trade during the rest of the year is maintained at this level, India's exports to Australia would cross the A$ 100 million mark and result in a larger balance of trade in India's favour. Major items of exports from Australia to India are wool, minerals, tallow, and some engineering products. Major items imported from India into Australia are textiles, garments, jute products, leather manufacturers, tea, cashew nuts, engineering products, precious and semi-precious stones, coffee, shrimps, sports goods, footwear, castor oil and handicrafts.

With a view to facilitating clearance of Indian handloom products which are not 100 percent cotton made, the Australian authroities have made new provision in the relevant by-law. Accordingly, the by-law has been extended to allow for textile fabrics and articles made up from textile fabrics, containing not less than 95 percent by weight of natrual fibres to be eligible for duty-free admission under the handicraft concession. The 95 percent criteria will be strictly adhered to and no tolerance would be allowed. For the period October 1 to December 14, 1978, it had also been decided that by-law admission would be granted to textile fabrics and articles made up from textile fabrics, containing not less than 75 percent by weight of natural fibres. This additional concession would also apply to handicraft that were : (a) in direct transit to Australia on December 14, 1978 and are entered for home consumption within 21 days of importation ; or (b) in bond in Australia, December 14, 1978 and are entered for home consumption on or before January 10, 1979.

The third annual meeting of the Indo-Australian Joint Trade Committee was held at Canberra from November 27 to 29, 1978. The Committee reviewed bilateral trade and considered problems and prospects of various items of interest to the two countries. Tariff and non-tariff barriers, trade promotion activities, economic cooperation and other aspects of trade and economic relations between the two countries were also discussed.

An eight-member trade delegation sponsored by the Indo-Australian Trade Group of the Indian Council of Foreign Trade visited Australia from November 12 to 24, 1978. The Delegation included representatives from engineering, woollens, carpets, cotton textiles, ready-made garments, leather and footwear, handicrafts, shipping, transport and tourism industries. The main objectives of the delegation were :(a) to create better understanding and appreciation of the capabilities of Indian industry, (b) to explore avenues for expanding of trade betwe the two countries in respect of existi commodities as well as new ones, a (c) to study the possibilities of setti up joint ventures in India, Austral and in third countries and marketi of products of such ventures. Durir the course of their visit, members the delegations had useful discussio with both Government officials in Ca berra and representatives of priva industry in Perth, Melbourne, Brisba and Sydney.

IETF Draws Many Overseas Visitors

A good response from overseas visitor has been a remarkable feature of th Third Indian Engineering Trade Fai (IETF), held at New Delhi from February 2 to 16, 1978. Visitors from about 20 countries visited the Fair and unanimously expressed their appreciation for the technological sophistication and the variety of Indian engineering products ranging from consumer durables to heavy industrial plants and equipment.

Mr. M. I. Danish, Minister of Mines and Industries of Afghanistan who visited the Fair remarked that it displayed great achievements and progress within a short time in the field of industries. Mr. Abdulla Nasser, Member, Executive Development Board of Abu Dhabi expressed interest in the small industry items, while Mr. Brahim Adoun of Algeria showed considerable interest in electrical and electronic items. The interests of the 11-member Sri Lanka delegation from motors and machinery spares to motorcycle, scooters, rubber-based goods, building material and food canning and processing equipment. The 4-member Fact Finding Industrial Delegation from Pakistan was interested in agricultrual machinery, including

functional pumps, heavy mechanical industry, automobile industry, pipes and tubes industry, machine tool industry, light industry, paper, industry and autoanciallary industry.

The heavy construction machinery sector drew the attention of the four members from SCCO, Iraq. Electronics and computers interested the 3-member delegation from Brazil. Mr. Kiichiro Tanaka, Chairman of Kiichi Tools Co. Ltd. of Japan showed particular interest in dropped forge steel products and handtools.

Mr. Marcel Cassou and Mr. Jean Claude of Retali Ltd., France, expressed the desire to promote collaboration in third country projects.

In addition, the 60 delegates from the EEC countries, who visited the Fair, were impressed by the multifaceted progress of the Indian engineering industry.

Representatives of Kenya, Sweden, Iran, Denmark, Afghanistan and Italy also visited the Fair.

Possibilities for joint ventures in the field of heavy engineering and drug manufacturing equipment between India and Brazil are being explored. Dr. Mario Ladosky and Dr. F. Kautz, representatives of Brazil's National Development Bank, who visited the IETF, said that they were greatly impressed by the development of Indian technology in these fields. The display of engineering goods at the Fair had given them a comprehensive view of the growth of Indian technology in this sector. They were particularly interested in the areas of mining equipment, numerically controlled machine tools as well as surgical equipment and machinery for bulk drug manufacture. The Bank representatives said that they would be exploring possibilities of India setting up joint ventures in these areas of production in Brazil. This would prove more remunerative for both countries, it was explained. Although Brazil might import such equipment on a short-term basis from India, it was anxious to become self-reliant in production to such goods.

It was also stated that Brazil was keen to increase both trade and industrial cooperation with India. Since India had advanced rapidly in certain sectors of technology, Brazil would prefer to adapt this technology to its own purposes especially since it was more suited to the needs of developing countries. For example, Indian technology was labour-intensive and would be desirable for Brazil which also has large labour force.

Exports Shortfall Made Up

India's exports earnings in the first seven months of the current financial year (1978-79) have almost levelled up with the inflow of earnings of the corresponding period of the previous year. This is not with standing the fall of over Rs. 4,000 million in the export of traditional commodities like tea, coffee and iron ore. Provisional figures place the overall exports during April-October, 1978 at Rs. 29,710 million, only Rs. 380 million less than the provisional export figures of Rs. 30,090 million in April-October, 1977-78.

This impressive performance has been the direct result of the massive multi-front export drive launched by the Government of India. According to report received from export promotion councils/boards, the gains have been in the dynamic sectors like gems and jewellery, textile garments, engineering goods, leather and leather manufactures. Export of gem and jewellery, for instance, went up to Rs. 2,130 million registering rise of 36 percent in the first half of 1978-79. Exports of cotton garments (millmade and handloom) were up by Rs. 780 million, engineering goods by Rs. 390 million and leather and leather manufactures by Rs. 230 million.

The decline in exports of items like tea, coffee, cashew kernels, tobacco, cotton piecegoods, steel, iron ore and groundnut extractions was mainly caused by recessionary conditions pervailing in the developed countries, the protectionist measures adopted by them and the fall in the international prices. The unit value of tea fell from Rs. 27.42 per kg. in April-September, 1977 to Rs. 20.30 per kg. in April-September, 1978; coffee prices fell from Rs. 40.15 per kg. to Rs. 26.61 and iron ore from Rs. 130 to Rs. 123 per tonne.

Rising Trend in Sports Goods Exports

India is exporting a wide range of sports goods to nearly 70 countries of the world. From a meagre amount of Rs. 4.85 million in 1961-62, India's export earnings from sports goods have gone up to Rs. 181 million in 1977-78. The top 15 buyers of Indian sports goods are UK, West Germany, Australia, USA, Nigeria, Singapore, France, Holland, Yugoslavia, Israel, Sweden, Canada, Newzealand, Italy and Bangladesh. India's exports to Australia have picked up from Rs. 0.16 million in 1961-62 to Rs. 25.76 million in 1977-78. Similarly, exports during the above period have risen from Rs. 0.92 million to Rs. 42.76 million in case of UK ; from Rs. 0.07 million to Rs. 30.00 million in case of West Germany, from Rs. 0.08 million to Rs. 15.60 million in case of USA. Bangladesh, Bulgaria, Yugoslavia, Indonesia, Egypt,

Taiwan and GDR are among the new markets which are importing Indian sports goods on an increasing scale.

The Indian sports goods industry manufacturs a large number of items ranging from actual sporting equipments to various ancillaries. The sports activities catered by the industry include football, volleyball, basketball, baseball, rugby, cricket, hockey, tennis, badminton, squash, golf, deck tennis, table tennis, water polo, billiards, cards, carrom, dart, chess, gymnastics and athletics. The industry has also given impetus to other subsidiary cottage industries such as football and volleyball inflators, cups, shields and sports hosiery.

Among the main items of sports goods exported from India are : footballs and leather balls, cricket bats, hockey sticks, badminton, tennis, squash rackets etc., hockey and cricket balls, EPNS sports wares, soft leather goods, carrom boards, balloons and rings, bladders etc. Phenomenal growth has been registered in the export of footballs, cricket bats, hockey sticks, hockey and cricket balls and rackets. Export earnings have risen from Rs. 0.94 million in 1961-62 to Rs. 88.7 million in 1977-78 in case of footballs and leather balls etc. Similarly, during the above period exports have gone up from Rs. 0.05 million to Rs. 25 million in case of cricket bats ; from Rs. 0.43 million to Rs. 13.00 million (hockey sticks) ; from Rs. 0.19 million to Rs. 11.90 million (badminton, tennis and squash rackets) ; and from Rs. 0.37 million to Rs. 8.54 million (hockey and cricket balls).

A wide variety of materials is used in the manufacture of sports goods, the primary ones among them are : wood, leather, rubber, metals, cloth and some miscellaneous items. The secondary materials include stitching thread, glue, gelatine and glycerine. A majority of them is available indigenously.

The sports goods industry is predominantly concentrated in Northern India, especially in Jullundur and Meerut. The other centres are Delhi, Bombay, Calcutta, Allahabad, Moradabad, Modi Nagar, Lucknow, Dehra Dun, Bulandshahar, Amritsar, Batala, Katni, Madras and Poona. There are about 725 units manufacturing sports goods. The industry is mainly in the cottage scale sector with 510 units having an average capital outlay between Rs. 3,000 and Rs. 5,000. This sector forms the backbone of the industry, producing 42.5 percent of the total sports goods. There are about 120 units with capital outlay between Rs. 20,000 and Rs. 50,000 accounting for 25 percent of the total production, and 70 units with capital outlay between Rs. 50,000 and Rs. 3 million accounting for 17.5 percent of the total production. Only 25 units have capital outlays over Rs. 3 million, and they produce 15 percent of the total sports goods. The manufacturing processes employed in majority of units are labour intensive and are carried out manually by skilled artisans. Modern production techniques have also been adopted in many units.

Industrial Growth and Diversification

Mineral Production Up

The total value of mineral production rose to Rs. 1,018 million during November, 1978 from Rs. 989 million in the corresponding month of 1977. This excludes the value of ato and minor minerals, according to latest estimates from the Indian Bur of Mines (IBM). Mineral product in Octob.r was valued at Rs. million.

The index of mineral product (quantum) with Base 1970 as 100 r to 140 during November, 1978 fr 133 in the previous month.

Among the important metallic mine the production of iron ore rose 10 percent to 3.44 million tonnes November, 1978 from 3.12 milli tonnes in October, 1978. The outp of copper ore and chromite increas by 16 percent and 34 percent 196,530 tonnes and 22,176 tonn respectively during the month as gain output in October. There was rise of about 5 percent in mangane ore production—115,745 tonnes October, 1978 to 121,167 tonnes November, 1978.

Among the principal non-metalli minerals, the production of apatite an phosphorite together increased to 66,0 tonnes in November, 1978 from 51,00 tonnes in the previous month. Th output of magnesite rose by 10 percen to 37,162 tonnes during the mont from 33,831 tonnes in October, 1978 Limestone production, however, dec lined by about 5 percent from 24 million tonnes in October, 1978 t 2.36 million tonnes in November, 197 due to shortage of locos, power failure and breakdown of machinery in some cases. The output of dolomite wa maintained at the level of 136,000 tonnes during the month.

During the month of November, minera fuels accounted for 75 percent of the total value of mineral production, metallic minerals for 17 percent and non-mallic minerals, 8 percent. Iron

ore, copper ore and manganese ore were the most important constituents of the metallic minerals, and among the non-metallic minerals, limestone, apatite, phosphorite, magnesite, and dolomite.

National Handloom Expo'79

The Development Commissioner for Handlooms, Union Ministry of Industry, is organising the National Handloom Expo, '79 at Calcutta Maidan, Calcutta from February 15 to March 16, 1979 in collaboration with the Government of West Bengal.

Hectic preparations were made at Calcutta Maidan where more than 1,000 technical men worked round the clock to launch the National Handloom Expo on February 15. The Chief Minister of West Bengal, Mr. Mr. Jyoti, Basu, opened the Expo and Mr. T. N. Singh, Governor, presided.

The Expo first of its kind in eastern part of India, is participated by all the States who display and sell to the consumers their choiest handloom fabrics in cotton, silk and woollen.

As a measure of incentive for boosting up the marekting programme the Union Government has decided to give 20 percent rebate on all sales of handloom cotton, silk and woollen which will be shared equally both by the Centre and respective States.

The Development Commissioner for Handooms has put up a theme pavilion explaining the progress achieved in the handloom sector. The theme sector concentrates on the recent breakthrough achieved in the areas of technology and designs.

Main aspects of the handloom industry, the commitment of the Government to revamp the handloom sector and assign it primacy of place in the current economic strategy, the role and achievements of Development Commissioner for Handlooms in implementing the handloom policy—all these are conveyed through visuals maps, graphics, scripts, etc.

During the exhibition there is arrangement for cultrual programmes and fashion shows. The Indian Posts and Telegraphs Department has issued special cancellation marks throughout India to commemorate this occasion.

The Expo is likely to generate many trade enquiries from various parts of the world and the respective States will book orders which will be executed expeditiously.

Notable Increase in Energy Generation

There is significant improvement in power generation in the country according to the Union Energy Minister, Mr.P. Ramachandran. The generation during January, 1979 exceeded 9,150 million units which was an all-time high. The total power generation during the first ten months in 1978-79 was 85,590 million units which was 12.5 percent more than the generation of 75,052 million units in the corresponding period of the previous year. No power station in the country will be allowed to close down for want of coal. There is regular monitoring of coal stocks with the thermal power stations, along with representatives of the Railways. This was stated recently by the Energy Minister, while addressing members of the Consultative Committee of Parliament attached to his Ministry.

The Minister announced that the present contract system in the coal companies would be abolished in a phased manner from April 1, 1979. Instructions had already gone to the coal companies to replace this system by departmentalisation.

The Minister indicated that an installed capacity of 1,717 MW had already been added and the year was likely to end with an additional installed capacity of 3,000 MW as against 2,000 MW during the last year, an increase of 50 percent.

In order to efficiently utilise the existing capacity, a Project Rennovation Programme had been organised, the Minister said, at selected thermal and hydro stations to investigate the major problems facing these units and to identify and supervise the modification and rectification work. Roving monitoring teams were also proposed to be constituted to check the performance of certain identified themral stations like Patratu, Koradi, Obra and Badarpur, at frequent intervals to ensure that the operating and maintenance procedures were followed strictly.

Talking about coal, the Minister said, that the total coal production upto the end of January, 1979 was estimated at 81.4 million tonnes as against a production of 80.7 million tonnes during the same period in 1978. During the month of January itself, the production of coal in the country was 9.8 million tonnes—an increase of 34 percent compared to the month of October 1978. The production of Coal India in January 1979 had been 8.75 million tonnes which was a record production in any month of January achieved so far, the Minister added. Coal production in the next two months was expected to improve further.

The Minister said that the despatches

of coal in the country during the year upto the month of January had been 78 million tonnes which was less as compared to the despatches during the same period last year. The increase in production without a corresponding increase in despatches to consumers had resulted in an increase in pithead stock. The present pithead stock at the mines was nearly 12 million tonnes of coal. In addition, there was also nearly 9.6 million tonnes of middlings at the washeries most of which could be used for brick-burners and to some extent by power stations, the Minister said. A part of this was already being despatched to power stations and brick burners by road and rail. However, a significant increase and dispatches of this product was only possible if adequate rail transport was available in addition to the movement of coal from the pitheads.

The Minister told the Committee that to meet the demand of the consumers in the subsequent years, more than 95 projects had been identified, during the past two years, and nearly 50 percent of them had been sanctioned in Coal India. Nearly a dozen projects had been sanctioned in Singareni Collieries Co. for increasing the production. This was a significant increase compared to only 52 projects during the period 1973-74 to 1976-77.

The Minister said that the coal industry was in a position to meet the requirement of the country and if there were no untoward occurrences, the stock of coal at pitheads by the end of the current financial year (April 1978-March 1979) would exceed 13 million tonnes which would be more than the stocks on April 1, 1978.

Higher Outlay for National Highways

The Centre has approved an outlay of Rs. 1,200 million for the development of National Highways and other central sector roads during the next financial year (1979-80). This is Rs. 170 million more than the current financial year. This information was given by the Union Minister for Shipping and Transport, Mr. Chand Ram, to the Parliamentary Consultative Committee attached to his Ministry, at Port Blair.

The Minister told the Committee that a bridge, estimated to cost Rs. 45 million, on Ghagra at Manjhighat in Uttar Pradesh has been sanctioned. It will provide another vital link between the states of Utter Pradesh and Bihar. A sum of Rs. 30 million has also been sanctioned to augment the work of national highway linking Calcutta with Haldia Port.

Mr. Chand Ram said that an agreement has been concluded between the Hindustan Shipyard and the Shipping Corporation of India for the construction of three ships. He said that financial assistance in the form of loans amounting to Rs. 260 million is proposed to be given to ten shipping companies from the Shipping Development Fund.

The Minister also informed the members that an allocation of Rs. 118.5 million has been made for new projects at Kandla, Paradip and Madras ports. These include a 30-tonne Bollard Pull tug and a floating dry-dock of 2700-tonne lifting capacity at Kandla ; a 5-tonne tug for Paradip ; and a dust control system for the iron ore handling facilities at Madras. Besides, an estimate of Rs. 13.5 million has been sanctioned for the construction of 488 residential quarters at Paradip.

Rationalising Rail Tariffs

As announced by the Union Railv Minister, Prof. Madhu Dandav during the Budget discussions in Ma 1977, the Government of In appointed a Rail Tariff Enquiry Co mittee on September 19, 1977 make a comprehensive examinat of the structure of fares, rates a other charges for public traffic also for post offices and milita traffic, and other ancillary and in dental matters, and to make reco mendations for their modification. T Committee was to bear in mind, amo other relevant considerations, the nec ssity for enforcing measures to impro operational efficiency of the Railwa since the "cost plus" approach alo may lead to the economy being ove burdened with an excessively hig freight and fare structure. The i terests concerned were to given a opportunity to represent their poin of view to the Committee.

The Committee consists of : D H. K. Paraanjape, Chairman ; M K. T. Mirchandani, Member an Mr. V. K. Sthanunathan, Membe The terms of reference of the Com mittee are :

(a) To examine the structure o fares, rates and other charge for public traffic carried b passenger trains and/or good trains, in all its aspects, and anciallary and incidental matter such as packing conditions and booking and delivery and payment for, traffic ;

(b) To examine the structure of fares, rates and other charges for post office mails and military traffic carried by passenger trains and/or goods trains, as also

ancillary and incidental matters ;

(c) To examine any other cognate matters that may be referred to the Committee by the Ministry of Railways ; and

(d) To recommend the modifications which should be made bearing in mind, among other relevant considerations, the interests of the common man, the requirements of developing economy, and the importance of making the Railways financially viable and the possibility of increased operating efficiency ; and

(e) Any other matters connected with the rationalisation and simplification of the freight and fare structure on the Indian Railways and any other incidental matters relating thereto.

The Committee will submit its report within a period of two years. It may also submit interim reports as may be considered necessary and as desired by the Government.

An interim report was submitted by the Committee to Prof. Madhu Dandavate, Union Minister of Railways in December last year.

The structure of rates for transport by goods trains was reviewed in all its aspects by a committee in 1955-57. No through-going enquiry has ever been made by an independent body in respect of passengers fares or the rates for other coaching traffic (such as parcels and luggage) as also charges for post office mails and military traffic.

The existing structure of rates for transport by goods trains has evolved out of the recommendations of the Freight Structure Enquiry Committee (1955-57). Many-far reaching changes have taken place in the country's economy in the two decades which have elapsed since and big changes are envisaged in the years to come and, therefore, there has been public demand for a fresh examination of the freight rate structure. It has also been suggested that packing conditions and the rules governing the booking, delivery of, and payment for, traffic should be modified suitably in the light of modern business practice. It is also necessary that in-depth study should be made of the structure of passenger fares, rates for other coaching traffic, as also charges made for post office mails and military traffic.

Over the years the railways have increasingly becomc bulk carriers of goods over longer distances and the proportion of passenger traffic carried at concessional fares has been progressively increasing. The rapid inflation of recent years has also particulary affected the railways because of their highly labour-intensive operations and there has been sharp escalations in the cost of energy and other materials used. Costs have risen faster than reveneues ; the railways have an accumulated liability of Rs. 4,619.9 million (as on 31-3-1977) borrowed over the years to meet the cost of essential but unremunerative work which are required to be financed from revenue surplus after payment of dividend (interest on capital) and in some years even to discharge the obligatory dividend liability.

The Public Accounts Committee observed that "there is need for rationalisation of the tariff plicy vis-a-vis the cost of services provided by the Railways", and recommended that "the question of r structuring of freights and fares on the basis of cost plus profit may be remitted to an Expert Committee for a thorough examination" adding that "unless this question is examined in detail and meaningful decisions are taken to rationalise the existing freight and fare structures on a scientific basis, the ills that be set the Railways will continue to plague them". The Railway Convention Committee have also emphasised the need for rationalising the freight and fare structure on the basis of traffic costing studies bringing charges in closer alignment with costs over the years.

Pesticides Industry Urged to Improve Agricultural Production

The Government will always be willing to review its policy of tax structures on pesticides, provided a positive and specific assurance is forthcoming from the industry that benefits to farmers would be commensurate with the relief granted. This was stated by the Union Minister for Agriculture and Irrigation, Mr. Surjit Singh Barnala, in his inaugural address at the seminar on "Pesticides for Rural Prosperity" in New Delhi, recently. The Minister said it was Government's desire to bring down the price of pesticides to bring these within reach of farmers.

The Union Minister advised the industry to play the important role of educating famers about the need for proper pesticides usages without unduly emphasising a liberal use of chemical treatment. It is important to look at things from a farmers' view point, which is that of crop protection as an extra cash, he might receive for his crop by preventing

or controlling pests/fung, compared with the cost of crop protection treatment. For this purpose, the farmer need to know the cost of various crop protection treatments available to him and their probable effectiveness.

The Minister observed that considerable losses were caused to crops in the fields from pests and diseases. Pesticids were more popular in high value cash crops like sugarcane and cotton and in the case of cereal crops, chemical control has yet to gain so much acceptance. As more areas are brought under the purview of plant protection coverage, the use of pesticides is also bound to increase. These have however to be applied judiciously in order to obviate any adverse effect. The Minister called for encouraging an integrated approach to pest management by evolving easy to use, simple and inexpensive plant protection techniques. The research and extension must aim at the development of the small farmer's technique. Referring to the menace of rat, which causes widespread damage to standing crops, and in the storage godowns, besides rendering the stored cereals unit for human consumption, the Minister observed that this pest was not receiving the requisite attention and concerted efforts have to be made for its control. He called upon the pest control operators and manufacturers of rodenticides to join hands with Government and voluntary agencies in periodically organsing rodent control weeks throughout the country. The community particularly the students during vacation could well be associated with this task.

The Minister emphasised the great need for extreme vigilance over the quality of products manufactured and marketed. It is Government's effort to ensure that only effective pesticides are requested for quality control purposes. The Central Government is establishing Central Insecticides Laboratory and the States are also being encouraged through liberal financial assistance to set up such laboratories. The industry can ensure that substandard insecticides are not given to unwary farmers and the manufacturers can take up a regular training programme for their dealers to enable them to impart directions, at the sale point, about the precautions required, in the use of chemicals. The manufacturers should not exaggerate the effectiveness of their product but present a true picture of a chemical's cpability. Government efforts alone, would not be sufficient in achieving quality control aspect particularly because of the vastness and geographical variations of the country which complicates the task. The Minister sought active cooperation of the industry in accompalising this objective.

The Minister urged the pesticide industry to promote a judicious approach in the application of pesticidal treatment to save crop losses especially in the hitherto in excessible areas.

In his keynote address, Mr. G. V. K. Rao, the Union Secretary, Department of Agriculture and Rural Development called for developing an integrated pest management programme for major crop systems and also for research on the residual effect of pesticides in soils, waters, crops, livestock, environment and human habits. He also emphasised the need to further standardise and improve upon the regulatory procedure and environment rules—the areas in which further work has to be done.

The Union Secreatary said that t average production in 1977-78 touch an all time record of 125.6 milli tonnes which represents a quantu jump. The factors that contribut to it include increase in the ar under irrigation, build-up of a lar cadre of competent people in agr culrtual field drawn from vario disciplines and the revamping country's agriculrtual extension servic under the Training and Visit systen The reserach support to agricultura programmes has gradually becom stronger over the years and the countr today can legitimately claim to h having one of the finest researc organisations in the world. Scientist have estimated that at the existin level of technology, about 250 millio tonnes of foodgrains can be produced almost double that of the existing level of production. The Governmen has also systematically built up infrastructrual facilities and fertiliser consumption in terms of nutrients was 5 million tonnes in 1978-79 as against from a meagre 50,000 tonnes in 1950-51. This progress is backed by a deliberate public policy to strengthen the hands of the farmers and to encourage him to increase his agricultural production. He emphasised the need for a systematic effort in building up strong plant protection and agro-aviation services in the country. Pesticides being important for improving agriculrtual production, storage and distribution of agricultural commodities and conditions of health. There is a great need to ensure production and supply of all proper pesticides and application equipment at reasonable prices. The industry will have to look at its distribution infrastructure and take quick steps to strengthen the retail network. The major consuming States would have to plan a

proper scheme of buffer stocks to meet margin needs for important crops.

Use of LPG for Industrial Purposes Restricted

The Government has decided to restrict to the minimum the use of Liquified Petroleum Gas (Cooking Gas) for industrial purposes even on considerations of technological necessity. The present demand for LPG is far in excess of availability and this position is likely to continue. In the light of the Government's policy of energy conservation in respect of scarce petroleum products and the clear priority for the use of LPG as industrial production for purposes such as welding, metal cutting heating, drying, annealing tempering, etc. will not be permitted since alternate fuels for such applications are feasible and available.

Regarding the use of LPG in other industries, it has been decided to permit its use on a restrictive basis after ensuring that no other fuel can be used for the purpose.

If the LPG is to be used as a source of fuel or in the form of input on technological or any other consideration, the prospective industrial consumers should not take any effective steps for procurement of equipment, acquisition of process know-how without prior clearance from the Standing Committee on Furnace Oil functioning in the Directorate General of Technical Development, Ministry of Industry in the case of centrally sponsored Industrial projects and the Directors of industries of the State Governments concerned in the case of small scale sector projects. The Directorate General of Technical Development (DGTD) and the Directors of Industries of the State Governments will examine the technological essentiality for the use of LPG and find out the position of availability of LPG from the Department of Petroleum, Ministry of Petroleum, Chemicals and Fertilisers before communicating their formal clearance. The Department of Petroleum, on the basis of the position of availability, will authorise the release of LPG to the oil company concerned for making it available to the parties.

While asking for clearance, the prospective LPG consumers will have to furnish information and details of the combustion system for which LPG is required, efforts made to examine the possibilities of using alternative fuels such as producer gas water gas, aceylene, vaporized kerosene, petrol, naphtha diesel oil etc. and the technological justification for finally deciding on LPG. Information regarding the location of the plant, LPG supply source, minimum monthly requirement will also have to be provided.

Desired date of commencement of LPG supply and the period for which the supply is needed, keeping in view the possibility of a phased programme for switch over to any alternate fuel will also have to be indicated.

The above procedure will, however, apply only in respect of requests for release of LPG for industrial production. Requirement of LPG for other purposes is not covered by this.

Science and Technology

Solar Drier for Chillies Developed

A solar drier for chillies has been developed by the Regional Research Laboratory, (RRL) Jammu. It is a simple device made of locally available stone and glass panes, and is specially useful in rural areas. One such devise is in operation near Pampore in Kashmir.

The entire drying process takes four to five days as against fifteen days by the conventional method. The device is free from dust and insect infections.

A unit of moderate size costs about Rs. 3,000 and can dry eight kilograms of chillies at one time.

With the extensive use of such driers, sizeable quantities of red chillies, known all over the country for their quality can be dried, preserved and exported.

A similar equipment based on solar radiation, was introduced by the Laboratory in 1977 for drying appricots in Ladakh. Twenty such sets were fabricated in the Laboratory and loaned to the fruit growrs in the area. The technology is packing up in Kargil as well.

Emphasis on Science and Technology

The Prime Minister, Mr. Morarji Desai said recently that the Government will do everything to encouarge science and technology in the country. He observed that those who make propaganda that the Government is not interested in scientists are doing harm to themselves. He was speaking at the function organised in New Delhi for the presentation of 1976 and 1977 Shanti Swarap Bhatnagar Awards for Science and Technology.

Mr. Desai observed that India had paid considerable attention to the work of science and technology after freedom and the country had now many Central National Laboratories

which are doing outstanding work in several branches of science. In the modern age science and technology have great importance and relevance in practically every activity with which India is concerned.

The Prime Minister added that these awards are given not as an incentive to the scientists but in recognition of their outstanding work. The real scientist does not do work for any incentive, or for any rewards, but he does so for the sake of the country. It is done for the love of it, as a dedication for the country, with the sole purpose of getting more and new knowledge on the subject to which the scientist is devoted.

Mr. Desai said that India has produced many scientists not only now, but ancient times as well. Even in the modern times the country has had outstanding people who are outstanding not only in this country but also in the whole world, specially like Mr. Ramanujam, Mr. J.C. Bose, Dr. Raman and Dr. Bhabha, who is the latest to join the ranks of those who have passed away in that gallexy. It has also to be considered how best science and technology can help all the people to better their lives. Therefore, it has to be applied in such a manner that it is useful to every person to better his life to do his work better and to derive satisfaction from what he does.

The Prime Minister continued, sometimes, unfortunately, science is utilised for destructive purposes and it has been so utilised in the matter of nuclear energy. It should de ensured that nuclear energy is not utilised for destructive weapons which threaten to destroy the whole civilisation. The work which is done by the scientists reaches all places where it can be utilised fully and properly. Scientist himself cannot be expected to do that. It is the laboratories or organisations like Council of Scientific and Industrial Research which have to do this work to see that the discoveries of the work that is done by any scientist is utilised in a practical manner by those who can utilise it.

The Prime Minister said that the Government attached great importance to science and technology. He was not worried by some propaganda started by some disatisfied people that Government is not interested in scientists and is putting impediments in their way for discouraging them. Those who make such propaganda, are doing harm to themselves. In that way they will not get recognition. Recognition comes by itself and it does not remain unrecognised. Any significant work done does not remain unrecognised in the world. He reiterated that the Government will do everything to encourage science and technology in the country.

Vasvik Award for NAL Scientists

Dr. S.R. Valluri, Director, and Dr. S. Ramaseshan, Deputy Director, National Aeronautical Laboratory have been honoured with the 1978 Vasvik Industrial Research Award for their meritorious contribution in the field of material sciences and technology. The award carries a gold medal for each and a cash prize of Rs. 25,000. The awards will be presented by the Prime Minister, Mr. Morarji Desai, at the Third Annual Vasvik Industrial Research Awards presentation function to be held on March 11, 1979 at Bhaidas Audorium, Vile Parle West, Bombay.

It may be recalled that every year the Vividhlaxi Audyogik Samshodhan Vikas Kendra, Bombay presents seve such annual awards of Rs. 25,000 an a gold medal each for outstandin industrial research in the field electronics, electrical materials, mecha nical, chemical, biological an agricultural sciences and technology Other recipients of the awards are Electronics Sciences and Technolog Mr. V. Narayana Rao, Director Defence Electro nics Research Labo ratory, Hyderabad; Chemical Science and Technology Dr. N.V. Bringi Principal Scientist. Hindustan Leve Research Centre, Bombay; Bilogica Sciences and Technology — Dr. V Jagannathan, Deputy Director and Head of the Bio-Chemistry Division, National Chemical Laboratory, Poona; Agricutural Sciences and Technology—Mr. S.H. Patil, Scientific Officer, Bhabha Atomic Research Centre, Bombay and Dr. G.S. Venkataraman, Project Coordinator (Algae), Indian Agricultural Research Institute, New Delhi.

Huge Quantities of Coal Salvaged

During the last five years or so, Central Mining Research Station, Dhanbad (CMRS) helped the country salvaging a large portion of about three million tonnes of coal which would have to be left in the under-ground pillars to protect various surface features and built-up structures.

Extraction of such a huge quantity of cold has been possible due to the expertise provided by CMRS. Scientists of this institute studied the feasibility of extraction of the coal seams in question on the basis of norms and relationship established by them and provided the managements with recommendations.

For the first time in India complete

extraction of coal seams with hydraulic sand stowing has been done below a main railway line and also within its vicinity at Sudamdih coal mine. The most interesting feature here is that the railway line has been allowed to subside by 37.5 cm without disrupting railway services. Here, about 920,000 tonnes of coal was locked up.

About 170,000 tonnes of coal has been extracted under different surface features and structures like colliery office buldings, ponds, villages, high tension line, etc., at Moonidih coal mine.

Similarly, at Surakachar colliery, six longwall faces have been extracted from a seam underneath high flood level of a nullah. The total quantity of coal extracted here is about 600,000 tonnes.

Besides these, a large quantity of coal has also been extracted from coal seams underneath different surface features at various other coal mines.

The importance of this work may be assessed from the fact that coal has limited resources. It cnannot be renewed by cultivation like agricultural products. Nor can human effort duplicate on any large scale the conditions of tremendous pressure and heat which nature used to create it.

Organising Fairs and Exhibitions-I

To initiate and promote foreign trade, it is of major importance to a country that she must display her goods and products at trade fairs and exhibitions. Such activity should form par. of any long-term sales planning, because fairs and exhibitions provide, at relatively small cost opportunities for the introduction of new products on the market and also for the investigation of trade trends, consumer tastes and buying habits. It helps to make contacts with importers of business agents and to expand the sale of products already introduced. The primary purpose of taking part in fairs and exhibtions should definitely be that of business promotion rather than mere representation. Success can be expected, particularly if preparations are a made with care and in good time.

Gone are the days when Indian businessmen could expect to be successful in selling their goods in the world market simply by dictating letters and sitting quietly in their offices. Domestic and international competition now makes it a must for exporters to show their products to as many would-be-customers as possible. Once initial contacts have been made with local firms by letter, personal visits or by using sample showrooms facilities, the businessmen should study the possibilities of participation in trade fairs and exhibitions. The list of fairs and exhibitions being held this year can be obtained from the Trade Fair Authority of India which came into being on March 1, 1977 with the merger of three organisations, viz., Directorate of Exhibitions and Commercial Publicity, Indian Council of Trade Fairs and Exhibitions and the Trade Fair Organisation, as a public sector undertaking, registered under Section 25 of the Companies Act 1956. The list of specialised trade fairs/ exhibitions can also be obtained from the Commodity Boards and the Export Promotion Councils functioning under the Ministry of Commerce.

If one is participating in trade fairs and exhibitions, the first thing to be decided is who is to be reached: the consumer or the professional buyer specialising in certain lines of goods. In some countries, the distinction is made between trade fairs and exhibitions. Trade fairs are markets and usually feature the products of one or more industries. They may be visited only by business people. Sales are made on the basis of samples. No goods are sold directly at the stands. Exhibitions, on the other hand, are meant also for the general public. They provide opportunities to test consumers' reactions. The selection of the fairs or exhibitions is determined also by the type and nature of the goods to be displayed. It is important to find out as to which event is most suitable to show a given line of goods. It is considered advisable to send an advance party to visit the fair or exhibition under consideration and to establish local contacts before final decision is made. It is also necessary to draw an overall estimate of possible expenses well ahead. The fairs and exhibitions management are in a position to advise on the costs likely to be incurred.

It goes without saying that the goods to be exhibited must be of high quality. In terms of price, design and packing they must meet the requirements of the market. Besides, a steady supply must always be ensured. It would be worth its while if preliminary contacts are established with importers with a view to finding out whether the products are competitive in the market or not. Past experience is a guide for India and proves that sales chances at fairs and exhibitions become better if contacts are established with businessmen by the exhibitors before hand. It may seem elementary but it undoubtedly is essential that the selection should be made well in advance, i.e., several months prior to the event in order to ensure regular supply of goods and to allow for transportation of schedules. Too many articles in one stand have

a tiring and confusing effect on the visitors. It is, therefore, of paramount importance that only a limited number of promising goods be displayed.

Transport agents are there to provide information about schedules of transportation. Customs formalities can also be entrused to them. They will take care of such responsibilities at the customs office where the event is held. Their task, of course, can be greatly facilitated if they are given an advance notice stating the kind, weight, volume and packing of the whole consignment as well as of the individual units.

It has been observed at many a fair that the participating countries try to build lavish and prestige stands. As a matter of fact, it would be better if the stands are to designed which are not only presentable but are also constructed in such a manner as to give prominence to the goods to be exhibited.

Successful participation in a fair largely depends on the composition and the qualifications of the staff at the stand. It is therefore, vital to choose the right type of people. They should not only have experience in the import and export fields and commercial matters in general, but should also be fully familiar with the technical details of the goods exhibited. If they are able to converse in the language of the country and are also well informed about that country, it will go a long way in boosting the sales. An equally important matter is to meet the wishes of the customers, journalists, delegations and visitors. They all should be individually and equally attended to and be given appropriate material. Great care should also be taken in preparing promotional literature, advertising and information material as they contribute markedly to a successful participation. It will be useful to have different types of material for different types of visitors. Professional buyers will want perhaps, pamphlets or catalogues, price lists and technical descriptions. Press for instance, is interested in news items, photographs and press folders. The general public would, of course, want information of a more general kind. One point that should not be over-looked is to ensure that the exhibitor's name and products are listed in the fair catalogue. The promotional literature, should give details of the nature and use of the products concerned as well as the address of the manufacturer and the importer. The texts should, in principle, be written in the language of the country concerned. Prices, measurements and weights should be cited in the country's own unit where the fair is being held for the convenience of the visitors. It is also important to fix wholesale and retail prices taking into account any duties, taxes, commissions, etc., that may be payable. Delivery dates and quantities should be mentioned as well. Here, however, it should be borne in mind that the distribution of promotional literature is not the only method of boosting sales. Establishing contacts is just as important. This can be done by holding press conferences and receptions and by arranging discussions between specialists and by giving demonstrations. Such activities need to be planned in close collaboration with the fair and exhibition management in order to ensure adequate attendance and to create a lasting impact. Last but not least, is the follow-up action. It frequently happens that major orders are not placed until some time after the event. It is, therefore, necessary that the staff members should visit prospective customers and have discussions with them openly. This perhaps could go a long way in achieving many gains.

While laying down the general guidelines that should be followed in any exhibition/fair, one's attention is obviously focussed on the Trade Fair Authority of India which, as has been mentioned earlier, was born on March 1, 1977. The broad objectives of this Authority are to promote, organise and participate in industrial, trade and other fairs/exhibitions, set up showrooms and depots in India and abroad, and to undertake trading activities in commodities connected with or relating to such fairs and exhibitions with a view to developing India's exports of new items and diversification and expansion of India's export trade. To project various dimensions of new India, the main emphasis in the Authority's approach to the organisation of these fairs and exhibitions has been to create a general awareness of India's industrial growth, technical advancement and growing export potetialities since independence and to underline how it has been tried to incorporate modern methods and practices with India's traditional way of life.

Having become conversant with the broad objectives of the Trade Fair Authority of India which organises every year a national exhibition and every alternate year an international exhibition in India in addition to participating in trade fairs and exhibitions abroad, one is naturally tempted to know about its permanent exhibition complex which has recently been built up in a modern way. This permanent exhibition complex in Pragati Maidan, New Delhi occupies an area of 48 hectares and a display area of 42,500 sq. mtrs. It has all basic

infrastructural facilities-electricity water supply, fire fighting equipment, telephone etc. A railway siding, as prawling warehouse and a customs clearance, are among other facilities. The main exhibition hall-the Hall of Nations-an architectural masterpiece has a space framed structure with concrete technology attempted for the first time in the world. There are a number of other permanent structures including the Hall of Industries, permanent State Government pavilions, "Hamasdhwani" the 4,000 open-seat- open-air theatre, "Shakunlam" a closed auditorium and the Village India Complex.

Besides the capital, Trade Fair Authority of India can organise trade fairs and exhibitions in other Indian States. Small mobile exhibitions could also be taken to rural areas right at the doorstep of the villagers.

Soon after the formation of Trade Fair Authority of India, India's export policy took a new shape in tune with the national objectives. Domestic demands vis-a-vis extrnal sales received primacy. Export of non-traditional and employment oriented sectors gained preference. As a result, the Trade Fair Authority of India organised national exhibitions in India and also participated in world trade fairs in tune with these national priorities, details of which can be found in later columns.

The First National Exposition organised by the Trade Fair Authority of India was the National Handloom Fair in April 1977 in New Delhi. Twenty two States and Union Territories participated in the event. Weavers centres from all over the country and the All-India Fabrics Marketing Cooperative Society took part. This fair was organised with a view to promoting handlooms as a fabric for modern living. Total retail sales at this fair aggregated to Rs. 3,482,000 in addition, wholesale business amounting to Rs. 577,000 was transacted and a further business of Rs. 2 million was reported under negotiation.

With a view to projecting the image of Rural India, the Authority organised Indian Agricultural Exposition 1977 (AGRIEXPO '77) on a massive scale. This was the first exhibition of this type on such a large scale. Rural India Complex, Krishi Darshan, Bullock Cart Square, Animal Husbandary Sector and a variety of cultural programmes formed the main highlights of the Exposition. The Rural India Complex depicted the entire gamut of rural life in the typical setting of the Indian countryside. Handlooms and handicrafts, village and small scale industries run by artisans in their rural surroundings underlined the economic advantages that could accrue from the further development of small scale sector-an essential element in the growing Indian economy. Nearly 200,000 farmers from various States and Union Territories visited this Exposition. The small and marginal farmers benefitted in more than one way from the latest information on the modern techniques in the field of agriculture, that was projected in Agriexpo '77, such as high yielding varieties of seeds, use of different types of fertilisers, new breeds of cattle, poultries and fisheries, soil conservation, improved agricultural implements, irrigation etc.

In addition to the farmers, many delegations from the nieghbouring countries visited Agriexpo '77. The Exposition generated business in respect of the sale of Agricultural machinery from India and abroad. On the whole, total number of visitors to Agriexpo '77 numbered 1.6 million. □

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Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Milan International Fair, Milan (Italy)	April 14-23, 1979
Thessaloniki International Fair, Thessoloniki (Greece)	May 24-28, 1979
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
Mozambique International Fair, Mozambique	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Tehran International Fair, Tehran (Iran)	September 19-October1, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
International Fair of Santiago (Chile), FISA '79	October 25-November 11, 1979
International Furniture Fair, (MEBUL FAIR) Brussels (Belgium)	November 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March, 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

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News Highlights

MECON Bags Syrian Consultancy Contract

A consultancy contract for a prestigious iron and steel project in Syria has been won by Metallurgical and Engineering Consultants (India) Limited (MECON), a public sector undertaking under the Union Ministry of Steel and Mines. Under this contract, MECON will prepare a feasibility report as the first step for the establishment of an iron and steel complex in Syria. The award of this Feasibility Study represents a major breakthrough for Indian consultancy services abroad as this has been won against stiff global competition from overseas consultancy organisations of repute.

EPI's Housing Project in Kuwait

The first phase of Ain Baghze Ardiya Housing Project consisting of 779 houses, was formally handed over by Engineering Projects India Limited (EPI) to the Kuwaiti National Housing Authority at a function in Kuwait recently. This is the single largest project in Kuwait consisting of 3,317 houses alongwith other public facilities like mosques, schools etc. The value of the project is Rs. 2,300 million.

(*Contd. on page* 2)

Export Performance and Potential

Fostering Indo-French Economic Cooperation

Areas of cooperation between India and France in the fields of steel, chemicals, tele-communication, automobile industry, pulp and paper were identified during a meeting which the visiting French industrial delegation had with the Union Minister of Industry, Mr. George Fernandes recently in New Delhi.

The two sides also agreed to explore possibilities of collaboration in the fields of oil, coal, electricity generation and export of handlooms.

The French delegation was on a visit to this country to explore the possibilities of Indo-French industrial collaboration in various sectors of industry by way of technology transfer, joint ventures, bilateral trade and projects in third countries. The visit was in pursuance of the decisions taken at the first meeting of the Indo-French Committee of Economic and Technical Cooperation held in New Delhi in December, 1978.

During the meeting, Mr. Fernandes emphasised the need for implementation of the United Nations resolution calling upon the developed countries to utilise 0.8 percent of their GNP for the development of developing countries. He said that India wanted French collaboration in setting up a steel plant at Mangalore and also was interested in cooperation for development of rural telecommunication, automobile industry and the production of paper and power alcohol with the help of large quantity of bagasse available in this country.

The Minister also expressed desire to avail of French credit on soft terms for the development of steel and other sectors which involve large investment.

Marine Products Export UP

The exports of marine products have registered a steady increase during the last three years. In 1976, the country exported 62,151 tonnes of fish. The export next year totalled 64,964 tonnes. In 1978, the quantity exported was 77,946 tonnes valued at Rs. 2,121.6 million.

Central Budget for 1979-80

The main highlights of the Central Budget for 1979-80 are : several tax concessions to rural sectors, unmanufactured tobacco freed from excise levy, duty on fertilisers cut by 50 percent, levy on light diesel oil reduced, no customs duty on imported power tillers, life saving drugs exempted from customs duty, petroleum products to cost more, cars, scooters, motor cycles to pay higher levy, many luxury items come under higher tax, new levy proposed on receipts of luxury hotels, wealth and capital gains taxes increased, increase in income tax surcharge, cigarettes and match boxes to cost more, hike in postal and telegraph rates and so on.

Export Performance and Potential

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It was agreed at the meeting that discussions between the two sides on th setting up of a steel plant and collaboration in automobile industry shou start immediately.

The leader of the French delegation, Mr. Stephane Thouvenot, Chairma of the Franco-Indian Committee of the Federation of French Industrie said that dialogue between the two countries for mutual industrial an technical cooperation should continue and assured that all efforts wou be made to take necessary action on areas of collaboration identified durin the Indo-French Committee meeting and their discussions with the Industr Minister and the officials in India.

Indo-French trade has been growing in recent years. According to commercial report from the Embassy of India, Paris, India's exports t France amounted to 1,245.04 million francs during the first eleven month (January-November) of 1978 as against 1379-88 million francs during th corresponding period last year. On the other hand, India's import fro France totalled 1152.76 million francs in January-November. 1978 a compared to 723.45 million francs during the same period last year. Thus India has a favourable balance of trade to the tone of 92.28 million franc during the first eleven months of 1978.

The Indo-French Committee on Technical and Economic Cooperatio held its first formal session since its inception in January, 1976 from Decembe 19 to December 22, 1978 in New Delhi. In accordance with a decisio taken in January 1976, this new committee succeeded two earlier committee and was elevated to the status of a ministerial committee. The leade of the French and the Indian delegations were respectively Mr. Jean-Francois Deniau the French Foreign Trade Minister and Mr. Mohan Dha the Indian Minister for Commerce, Civil Supplies and Cooperation.

The Committee reviewed the entire range of economic relations betwee the two countries. It was agreed by both the sides that they would make all efforts to double the volume of trade between the two countries in the course of the next four years. The Indian side expressed the wish that India should increase its export of processed food, furniture, carpets, sport goods, engineering goods, leather goods and marine prodcts to France and the French side expressed its desire to increase its share of the Indian market for machinery and equipment.

Another decision taken at this first session of the Committee was to set up a monitoring group that would meet between the ministerial level sessions and would review the various steps taken to implement the decision taken by the ministerial sessions.

Indo-Iraqi Accord on Agricultural Cooperation

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Referring to the deputation period of Indian experts working in Iraq, it was explained that the maximum normal period of deputation allowed to Government officers on foreign assignment is five years. In case however, Iraq requires them for short term for completion of their projects, India would consider the proposal on receipt of specific requests indicating the name and other details of the experts.

Coorperation between India and Jordan

Dr. Dajani, Minister for Industries and Energy, Jordan, called on the Union Minister for Energy, Mr. P. Ramachandran, recently in New Delhi and discussed the power development programme of Jordan and the manner in which India could be associated with it.

Jordan has a programme to electrify nearly 300 villages in the difficult areas of South Jordan in the coming months of this year. The representatives of the Rural Electrification Corporation (REC) had visited that area sometime last year and made a survey for the work that is to be undertaken for electrifying the villages. The Jordan Minister invited the Indian Government agencies to come forward with interesting proposals in view of their vast experience in rural electrification.

He also expressed his confidence that India will be able to put forward financially and economically viable proposals in this regard.

Both the Ministers expressed their hope that the relations between the two countries would strengthen further in times to come.

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Marine Products Export UP

The exports of marine products have registered a steady increase during the last three years. In 1976, the country exported 62,151 tonnes of fish. The export next year totalled 64,964 tonnes. In 1978, the quantity exported was 77,946 tonnes valued at Rs. 2,121.6 million.

Central Budget for 1979-80

The main highlights of the Central Budget for 1979-80 are : several tax concessions to rural sectors, unmanufactured tobacco freed from excise levy, duty on fertilisers cut by 50 percent, levy on light diesel oil reduced, no customs duty on imported power tillers, life saving drugs exempted from customs duty, petroleum products to cost more, cars, scooters, motor cycles to pay higher levy, many luxury items come under higher tax, new levy proposed on receipts of luxury hotels, wealth and capital gains taxes increased, increase in income tax surcharge, cigarettes and match boxes to cost more, hike in postal and telegraph rates and so on.

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It was agreed at the meeting that discussions between the two sides on t setting up of a steel plant and collaboration in automobile industry shou start immediately.

The leader of the French delegation, Mr. Stephane Thouvenot, Chairm of the Franco-Indian Committee of the Federation of French Industri said that dialogue between the two countries for mutual industrial ar technical cooperation should continue and assured that all efforts wou be made to take necessary action on areas of collaboration identified duri the Indo-French Committee meeting and their discussions with the Indust Minister and the officials in India.

Indo-French trade has been growing in recent years. According to commercial report from the Embassy of India, Paris, India's exports France amounted to 1,245.04 million francs during the first eleven month (January-November) of 1978 as against 1379-88 million francs during th corresponding period last year. On the other hand, India's import fro France totalled 1152.76 million francs in January-November. 1978 compared to 723.45 million francs during the same period last year. Thu India has a favourable balance of trade to the tone of 92.28 million franc during the first eleven months of 1978.

The Indo-French Committee on Technical and Economic Cooperatio held its first formal session since its inception in January, 1976 from Decembe 19 to December 22, 1978 in New Delhi. In accordance with a decisio taken in January 1976, this new committee succeeded two earlier committe and was elevated to the status of a ministerial committee. The leade of the French and the Indian delegations were respectively Mr. Jean Francois Deniau the French Foreign Trade Minister and Mr. Mohan Dha the Indian Minister for Commerce, Civil Supplies and Cooperation.

The Committee reviewed the entire range of economic relations betwee the two countries. It was agreed by both the sides that they would mak all efforts to double the volume of trade between the two countries in th course of the next four years. The Indian side expressed the wish tha India should increase its export of processed food, furniture, carpets, sport goods, engineering goods, leather goods and marine prodcts to Franc and the French side expressed its desire to increase its share of the India market for machinery and equipment.

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Australian talks on co-operation in energy research as a follow up of the recent visit of the Australian Prime Minister to India.

The two-member Australian delegation consisting of Dr. A. G. Christie, Assistant Secretary, Department of National Development and Dr. L. E. Lyons, Professor of Physical Chemistry, University of Queensland held discussions with Prof. M. G. K. Menon, Secretary, Department of Science and Technology and the officials of the Department of Coal and Bharat Heavy Electricals Limited. The discussion covered possibility of co-operation in solar energy, coal research and biomass research.

The Australian delegation visited National Physical Laboratory, Central Electronics Limited and Indian Institute of Technology in Delhi.

The institutions, which would undertake the specific projects, have been tentatively identified in both the countries and an expert team from India will visit Australia to work out the details of each project.

India and Zambia to Avoid Double Taxation

A comprehensive agreement between India and Zambia was signed recently in New Delhi providing for the avoidance of double taxation on income. The agreement was signed by Mr. V. V. Badami, Chairman, Central Board of Direct Taxes, Union Ministry of Finance, on behalf of India and Mr. L. W. Bwalya, Commissioner of Taxes, Zambia, for his country.

The agreement provides for the removal of tax obstacles that hinder the flow of capital, technology and personnel between the two countries.

Earlier, an Indian tax delegation visited Zambia in November, 1978 to initiate discussions on the subject.

Menthod Plant in Burma With Indian Collaboration

According to Regional Research Laboratory (RRL) Jammu, technical know-how developed in the laboratory and its expertise in design and engineering have been successfully transferred to Burma. The laboratory has designed, engineered and fabricated most of the equipment for the menthod plant set up at the premises of the Central Research Organisation, Rangoon, on turn-key basis.

The plant with a capacity of 3 tons per annun of menthol crystals, consisting of chilling and separating section, reactors, heat exchangers and structurals for chemical process had been designed, engineered and fabricated in the Chemical Engineering and Design Division of RRL, Jammu.

This is one of the ten pilot plants Government of India agreed to set up in Burma under the Indian Technical and Economic Co-operation programme.

Production of menthol in India is a result of the efforts made by RRL, Jammu by introducing Mentha arvensis in this country and producing menthol crystals from the oil of Mentha arvensis.

A borate ester conversion method has been developed to obtain additional yield of menthol crystals from the dementhotised oil. The process has been perfected at pilot plant scale and has already been released to several entrepreneurs in India.

Chemical Engineering and Design Division of this Laboratory, which is very well equipped in terms of qualified manpower and sophisticated infra-structure for under-taking process development, plant design, fabrication of chemical equipment and transfer of technology to industries, is forging ahead by undertaking turn-key jobs for establishing phyto-chemical and essential oils industries in India based on the know-how developed in the laboratory.

Heavy Industry Bags Higher Export Orders

The public sector undertakings under the control of the Department of Heavy Industry secured export orders worth Rs. 2,213 million during the first eight months (April-November) of the current financial year, 1978-79. The value of physical export orders executed in the same period was Rs. 1,141.1 million exceeding the exports of the value of Rs. 1,033.4 million during the entire year of 1977-78.

At the end of November 1978, the undertakings had export orders of the value of Rs. 8,891 million pending with them. The major orders under execution are with Engineering Projects (India) Ltd. (Rs. 5,788.4 million), Bharat Heavy Electricals Limited (Rs. 2,354.8 million), Heavy Engineering Corporation (Rs. 276.7 million, Jessop and Company Limited (Rs. 119.9 million) and Braithwaites and Company (Rs. 105 million).

Additional Export of Cotton

The Government have had occasion to review the situation relating to the expected supply-demand position of textile fibres. Keeping in view the need to encourage cotton production, it has been decided to permit, as a first step, export of 150,000 bales of staple cotton of specified varieties during the current cotton season. This will be over and above the exports,

already permitted, of 200,000 bales of staple cotton of the previous season and 70,000 bales of Bengal Delhi.

This export permission will be available to apex marketing societies of the concerned Cotton growing States and the cotton Corporation of India so that the benefits flow primarily to growers. Suitable allocation of quotas will be made by the Textile Commissioner.

Performance of Third Engineering Trade Fair

The Third Engineering Trade Fair recently organised at New Delhi by the Association of Indian Engineering Industries (AIEI) has been a great success. This can be guaged from the fact that representatives of 50 countries visited the Fair and over 360 visitors from abroad came from these countries. Besides, 5 International Agencies were represented at the Fair. More than 100,000 people from different parts of the country as also students and teachers of 75 technical colleges visited the Fair. As many as 254 companies displayed their products and about 100 of these were from the small scale sector. Another highlight of the Fair was that a number of national and international conferences were held during the Fair. In terms of transaction of business also, the Fair's performance was encouraging. The estimated value of business enquiries and orders generated, both domestic and export, amounted to Rs. 1,047 million.

At the closing ceremony of the Fair, Mr. R. J. Shahney, the President of AIEI, said that with this Fair, had achieved a higher level of maturity and organisational stability. The trade fair, should be seen as part of a national export strategy and the industrial cooperation programme. The objectives are : (a) effectively to project Indian engineering capabilities and technology to the world and, indeed, to the people in the country ; (b) to establish this as the place to transact business, conclude collaboration agreements and technology exchange programme ; and (c) to expose engineering industry to the challenge of world trade, thus forcing the pace for quality improvement and technological updating.

The President held that the Association had come some way in achieving these objectives since the first AIEI effort in 1975. He believed that to make the engineering trade fair truly effective there was need for a rationalisation in the number of trade fairs in which the engineering industry was required to participate. AIEI was anxious to seek a proper place and role for specialist fairs.

Referring to furture plans, the President observed that the UNIDO General Assembly will be held in New Delhi from 20th January to 3rd February, 1980 and this will bring to Delhi 3000 foreign delegates. For the engineering industry, it would serve as an ideal opportunity to project its capabilites to the world. He therefore, considered desirable to hold the Fourth Indian Engineering Trade Fair to coincide with UNIDO III.

International Trade Fair Maputo

The Trade Fair Authority of India will be organising participation in the 15th International Trade Fair or Maputo (Mozambique) scheduled to be held from August 25 to September 8, 1979, on behalf of Government of India. All efforts are being made to make out participation purposeful and effective.

The broad areas as defined by the Embassy of India in Mozambique are : machinery, including agricultural machinery, railways, telecommunication equipments, buses, jeeps, army equipment and software, textiles, medical equipment, medicines, plastic goods, consultancy services in various engineering fields etc. The Authority's effort is specifically to project the role of private sector undertakings in India Pavilion which will be in tune with Mozambique's current effort to establish similar undertakings with their economy.

Participation charges : Rs. 400 per square metres. Minimum space 5 square metres.

TFA's Clearing and Forwarding Agents: M/s. Lee and Muirhead (India) Pvt. Ltd., 12-K Dubash Marg, Bombay-400023.

Last date of receipt of applications for participation : 15th March, 1979. (date extendable depending on sailing position). Goods to be delivered to TEAI's agents by 1st May, 1979.

For other details contact : Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

Workshop on Trade Fairs

An intensive 5-day workshop on planning of effective participations in international trade fairs, sponsored by the Trade Fair Authority of India (TFAI) and the International Trade Centre, UNCTAD/GATT, Geneva, was held at India International Centre, New Delhi from February 19 to 23, 1979.

Inaugurating the workshop, Mr. N. N. Vasudev, General Manager, TFAI said that the participants would benefit

a good deal from the deliberations of the workshop and acquire useful knowledge about the latest techniques for effective participation in trade fairs and exhibitions.

The workshop focussed attention on the current thinking on export sales promotion through trade fairs at both policy and practical levels. It was stressed that international fairs and exhibitions have long been an established form of export promotion. Effective planning, execution and follow up of trade fairs calls for a professional approach, teamwork and marketing techniques. The workshop highlighted the problems involved in this field and the practical solutions for achieving fruitful results.

The workshop faculty comprised four leading experts in the line, namely, Mr. Percy Lovegrove, a senior officer of the Irish Export Board ; Mr. Bryan Montgomery, Managing Director of Andry Montgomery Group and Chairman of Exhibition Consultants Limited, London ; Mr. John Vimpany, Managing Director of Exhibition Consultants Limited ; and Mr. Edward Krause, Director of Clapp and Poliak, a leading US trade exhibition company.

Thirty six participants from various export promotion organisations including State Trading Corporation of India, Trade Development Authority, Export Promotion Councils and Commodity Boards, Trade Fair Authority of India, etc., took part in the workshop.

Speaking at the closing ceremony, Mr. N. K. Bharadwaj, Managing Director, TFAI, thanked the members of the faculty and hoped that the new skills and techniques acquired by the participants during the course of the workshop would help them in effectively discharging their functions in their respective organisations.

Industrial Growth and Diversification

Central Budget for 1979-80

Presenting the Central Government's Budget for the year 1979-80 in Parliament recently the Deputy Prime Minister and Finance Minister, Mr. Charan Singh, placed the overall budgetary gap for 1979-80 at the existing rates of taxation at Rs. 19,750 million. The total receipts of the Central Government for 1979-80 would be Rs. 165,510 million and total expenditure Rs. 185,260 million.

New taxation proposals for the coming financial year will bring an additional revenue of Rs. 6,650 million. Of the additional tax revenues, Rs. 2,050 million will accrue to the States leaving Rs. 4,600 million with Centre.

Compulsory Deposit Scheme would continue for two more years and Rs. 1,600 million of accretions of com pulsory deposits by Income-tax payers are expected.

As against the anticipated overall budgetary gap of Rs. 19,750 million for the year 1979-80, the additional revenues and the receipts from the compulsory deposits will cover a gap of Rs. 6,200 million leaving a residual deficit of Rs. 13,550 million.

As a result of number of changes proposed in the rates of Union excise duties and customs, the net result will be a net revenue gain of Rs. 6,061.40 million in a full year of which Rs. 4,131.5 million will accrue to the Centre and Rs. 1929.90 million to the States.

The new taxation proposals relating to the petroleum products are expected o yield an additional revenue of Rs. 2232.50 million under central exc and Rs. 557 million under custon

The central excise duty on mot spirit is being increased from t existing level of Rs. 22,538.8 millio to Rs. 27,500 million per kilolitre

The duty on high speed diesel oil being raised form the existing lev of Rs. 4040.4 million to Rs. 500 million per kilolitre. And that o kerosene from Rs. 4081.9 millio to Rs. 5000 million per kilolitre an duty on liquified petroleum gas (LPG from the existing level of Rs. 262 million per metric tonne to Rs. 400 million metric tonne.

An additional revenue of Rs. 100 million is proposed to be raised b increasing the rate of duty on th residuary heading item 68 of th central excise tariff from the existing level of 5 percent to 8 percent ad valorem.

Excise duties are being increased on cosmetics and toilet preparations (othe than perfume hair oil) from 63 percent to 100 percent, on air-conditioners from 105 percent to 110 percent, on parts of refrigerating and air-conditioning machinery from 105 percent to 125 percent, on stereo and hi-fi equipment from 36.75 percent to 40 percent, on high priced television sets from 21 percent to 30 percent and on the higher priced radios and radiograms from 36.75 percent to 40 percent.

The duty rates on some durable consumer articles such as pressure cookers, steel furniture, domestic electrical appliances and safes and strong boxes are also being raised. On pressure cookers the duty will be 15 p.rcent as against 10.5 percent, on steel furniture 25 percent as against 21 percent, on domestic electrical appliances 30 percent as against 26.25 p.rcent and on safes

and strong boxes 35 percent as against 21 percent.

Some selected consumer items like soap, tooth paste, tooth brush and detergents will also cost more because of higher duties.

Rate of structure on cigarettes would be adjusted in such a way as to further secure an additional sum of Rs. 600 million.

It has been proposed to step up the duty on matches produced by the mechanised sector from the existing level of Rs. 4.83 per gross boxes of 50 matches to Rs. 9.20

In regard to the non-mechanised sector other than cottage units which manufacture matches the existing level of duty is proposed to be rounded off at Rs. 4.50. The additional revenue from this is expected to be Rs. 80 million.

A duty of 30 percent on such machine-made carpets has been proposed, while hand-made carpets will be totally exempt from levy.

Consistent with the above approach and to encourage labour oriented non-power processing sector of the cotton textile industry the Finance Minister announced the withdrawal of the concessional rate of 8 percent ad valorem duty on power processed white power-loom cotton fabrics of finer varieties. The result is that these fabrics will now pay the same rate of 12 percent ad valorem as was payable by other power processed fabrics.

An increase in the excise duty on cotton and cellulosic spun yarn of finer counts used by composite textile mills and power-looms by about 10 percent of the existing rates yield an additional revenue of Rs. 100 million.

A number of food items such as instant coffee, biscuits, processed cheese, coco-powder, chewing gum, chocolates and aerated water would bear increased duties.

Food articles of mass consumption such as edible oils or vanaspati do not come under this increased levy.

The rates of excise duty on personalised modes of transport are also being revised.

A number of duty concessions have been announced. The Central excise duties on all chemical fertilisers will be reduced to 50 percent of the existing rates. The basic central excise duty on urea will be reduced from 15 percent ad valorem to 7.1/2 percent ad valorem ; that on single and triple super phosphate fertiliser from 7.5 percent to 3.75 percent ad valorem. The prices of other fertilisers will also be lower.

Another concession announced and meant for the benefit of farmers is the reduction in the excise duty on light diesel oil which is used by farmers to work their pumpsets. The new rates will be Rs. 75 per kilolitre as against Rs. 155.72 per kilolitre.

A third concession to the agriculturist is the exemption from customs duty for power tillers imported by State agro-industries Corporations and Central Government. Indigenously manufactured power tillers are already exempted from central excise duty.

Another concession to the farmers. relates to the total exemption from custom duties of PVC resins imported for the purpose of manufacturing PVC pipes for irrigation.

Another major concession which Mr. Charan Singh described as a proposal of far-reaching significance relates to the complete exemption of unmanufactured tobacco from excise duties including additional excise duties.

For the benefit of the general tax payer and the large masses of people Mr. Charan Singh announced reliefs in the field of drugs and medicines. Twenty-two specified bulk drugs required for the formulation of life-saving drugs will be fully exempted from customs duty. The rates of customs duty on 17 specified bulk drug intermediates is being reduced from a total of 75 percent ad valorem to 25 percent ad valorem. Patent or proprietory medicines including life-saving durgs are also proposed to be exempt from the levy of special excise duty.

The rate of surcharge for union purposes on income-tax in the case of all categories of non-corporate tax payers would go up from 15 percent to 20 percent.

It has been decided to continue the compulsory deposit scheme for income-tax payers for a further period of two years.

There would also be an increases in the Rate of wealthtax, on high slabs of net wealth. The new rates will be three percent, as against the current rate of 2.5 percent on net wealth between Rs. 1 million and Rs. 1.5 million and 5 percent as against 3.5 percent on net weath over Rs. 1.5 million. The rates of wealth-tax on slabs upto Rs. 1 million. remain unchanged. These changes will yield an additional revenue of Rs. 66 million in a year.

In the field of corporate taxation it is proposed to raise the surcharge on income-tax in the case of comapnies from 5 percent to 7.5 percent. This

will yield an additional revenue of Rs. 350 million in a year. The additional revenue for the coming year will be Rs. 280 million. Mr. Charan Singh also announced the changes in the Capital Gains Tax. Reduction in tax concessions at present in respect of long-term savings through life insurance premium, provident fund contributions and other approved forms of savings has also been announced. This will yield Rs. 96 million annually and in 1979-80, Rs. 76 million.

The tax holiday concession, which is at present available in respect of all industrial undertakings that go into production before 1st April 1981 will be withdrawn in the case of undertakings engaged in non-priority industries, if they go into production after 31st of March, 1979.

Another taxation announced relates to the gross receipts of luxury hotels. In calculating the tax base, items of food and drinks supplied in hotels which are subject to sales tax, will not be included.

Strong Support for DIC Programme

Continuance of the centrally-sponsored District Industries Centre (DIC) programme till atleast the end of the Sixth Plan period has been strongly recommended by the All-India Small Scale Industries Board at the end of its deliberations recently held in New Delhi.

The meeting was inaugurated by Mr. Charan Singh, Deputy Prime Minister and Finance Minister. Mr. George Fernandes, Union Minister of Industry, presided. Mr. Jagdambi Prasad Yadav and Mrs. Abha Maiti, Ministers of State bor Industry, most of the State Industry Ministers, representatives of financing institutions and senior officials connected with the development of small scale industry participated in the deliberations.

The Board noted that of late, in almost all the States an effective action was being taken to implement the DIC programme and a good beginning had already been made.

The Board recommended that the personnel for the DIC's should be drawn from a wide pool of experience, both within the Government and outside. It noted with satisfaction that by and large in almost all the states the formula of having 50 percent of the staff from within the Industry Department and the rest from other departments was being followed.

It was noted that while the State Industry Departments had delegated powers to the DICs, other departments had yet to do so. The Board stressed that it was imperative to strengthen the DICs through such delegation so that these become effective focal points for the economic growth of the districts. It also welcomed the proposal to establish close linkages between DICs and the Integrated Rural Development Programme because such integration was essential if the DICs were to develop the agro-industrial potential of the districts.

About the demand for providing more funds for erecting buildings for the DICs, it was clarified that States were free to spend more than Rs. 200,000 for the purpose provided they kept within the overall ceiling of Rs. 500,000 under the non-recurring expenditure.

There was unanimous agreement on the need for effective legislation to protect and develop the small and cottage sectors and tiny units. Such legislation, all the State Government urged, should be given the highest priority. The proposed legislation, it was pointed out, should provide a clear and unambiguous definition of the small and tiny sector.

It was also suggested that the existing policy of reservation should be extended to make the large and medium sized units, which were currently producing reserved items, to vacate their production in a phased manner in the near future.

There was a near unanimous agreement on the urgent need for setting up an apex body for financing the small and tiny sectors.

During the discussions on the need to re-finance the working capital, it came out that in pursuance of the recommendations of the Tambe Committee, which had been accepted by the Reserve Bank of India, the distinction between the term loan and the working capital for loans below Rs. 25,000 had been removed and the entire loan would be eligible for re-financing.

It was stressed that the genuine needs of the small and tiny sectors should be considered as the first charge on the national resource of raw materials which could be supplemented through imports, if necessary.

It was also suggested that at the State level a Tripartite Committee consisting of representatives of the Director of Industries, the State Small Industries Corporations and the Small Industries Service Institutes should make a realistic assessment of the requirements of the units in the State. Once such an assessment was made, it should be considered as the basis for allocation of the raw materials.

The Small Industries Corporations in the States should also be strengthened so as to act as effective channels of distribution to the small and tiny sectors. In addition, the DICs should be actively involved in keeping a close watch on the utilisation of the raw materials allocated.

It was also recommended that there should be a uniform pooled price at every district headquarters for each commodity so as to remove the price differential from one State to the other which, in fact, works adversely in backward areas.

A number of States suggested that the Central Sales Tax of four percent should be completely waived or reduced to a nominal figure of one percent for the small scale sector industries.

During the discussions it was emphasised that the quality control for products in the small scale sector was an important factor, particularly in the context of export marketing and the Government should provide necessary facilities to enable small scale industries to test their products at easily accessible centres. Also the financing institutions should provide funds to small units, for the purcahse of testing equipment.

To improve marketing facilities, it was suggested that either special institutions on the lines of the Trade Development Authority be set up, or, existing institutions be asked to accelerate the work in this regard. Also, the present disincentives in respect of taxation in regard to purchase of items from the small scale units by the large units should be removed so that the ancillary development may be expedited.

The Board set up five Standing Committees, one each pertaining to questions relating to DICs, raw materials, finance, quality control and ancillary development. The Committees would meet periodically in different parts of the country.

In his concluding remarks, the Union Industry Minister, Mr. George Fernandes, expressed satisfaction over the unanimous agreement of the Board in regard to the continuation of the DIC programme. The Minister said that he did not want an entrepreneur to go to any other place except DIC for the solution of all his problems. This, he said, may necessitate considerable delegation of powers to DICs and requested the State Industry Ministers to take necessary action in this regard including legislation, necessary.

Bongaigaon Refinery's Trial Runs

The trial runs of the one-million tonne crude distillation unit of the Bongaigaon Refinery and Petrochemicals Complex at Bongaigaon in Assam have started.

The refinery section of the Complex consists of the Crude Distillation Unit, a 230000 tonne Kerosene Treating Unit, a 5,00000 tonne Delayed Coking Plant and a 60,000 tonne Coke Calcination Unit.

The Kerosene Treating Unit of the refinery section is in the final stages of completion and is expected to be commissioned during the next financial year. The Delayed Coking Plant and the Coke Calcination Unit would be commissioned subsequently.

In the Petrochemicals Section of the Complex, the xylenes and the dimethyl terephthalate plants are in advanced stage of engineering. In the xylenes Plant, paraxylene and orthoxyelene will be produced from highly rich aromatic naphtha produced from the Refinery Section. The para-xylene will be converted to produce DMT which is the raw material for the manufacture of polyester fibre. A 30000-tonne polyester fibre plant would be set up as part of the Complex.

The entire Complex would be one of the few in the world which, under one roof, has a Refinery, a Petrochemicals Complex and a Fibre Plant. The refinery designed entirely by Engineers India Ltd. would be the first grass-root venture to be set up in India indigenously. The complex will have its own Captive Power Plant with three 16 MW turbo generator sets and also a very modern effluent treatment plant.

Singrauli Power Station Coming up

The Singrauli super ther malpower station, India's first large capacity thermal station, with a capacity of 2000 MW is coming up fast at Shaktinagar in Mirzapur District of Uttar Pradesh. Nearly 5,000 labourers, engineers and technicians are working to beat the various deadlines for the erection and commissioning of the power station. Brisk activity is simultaneously on at the fabrication of structurals, pumping house, water channels, intake and discharge ducts, laying of railway tracks, transmission lines and roads. Boiler and turbo generators are being separately fabricated by the Bharat Heavy Electricals Limited, which got the orders against stiff international competition.

Singrauli is the first of the large capacity power stations being constructed by the National Thermal Power Corporation in the country. These power

stations will be at coal pitheads, thus saving time and money on the carriage of coal. They will also have the advantage of economy of scale, common facilities and infrastructure which are likely to result in lower costs of generation. High voltage transmission lines will be installed to evacuate this power. Network of these transmission lines will serve as a nucleus for forming regional and national grid.

Work on the Singrauli super thermal power station will be carried on in two phases. The first phase will have three generators of 200 MW each involving an investment of Rs. 2,556.60 million and another Rs. 316.40 million for installation of 400 KV transmission lines. The second phase will consist of two generators of 200 MW each and two of 500 MW each. The total investment on the project will be over Rs. 9,000 million.

The first 200 MW unit will be commissioned in 1981 and thereafter four more units of 200 MW will be installed at an interval of every six months. Thereafter two more units of 500 MW each will be installed within an interval of one year each. The water requirements for the station will be met from the Rihand lake and coal will be supplied by Jayant mines.

The project will have a merry-go-round railway system for carrying coal to the power station from the coal mines. The railway system has been so named on account of circular movement of the railway between the project and the coal mines, involving a turn-round of nearly 17 kms. The loading and unloading of coal at either end will be performed mechanically. The power station at its maximum will consume 29,000 tonnes of coal per day and over 8 million tonnes per year. Work on the system has already started and is progressing well. The power station will have a chimney of 220 metres, the highest in the country.

Increase in Railway Traffic

The approximate number of passengers booked during the period April to December 1978 totalled 2,697 million registering an increase of 79.63 million (3.04 percent) over the previous year's level of traffic. During this period, both suburban and non-suburban traffic showed an upward trend, the former by 5.31 percent and latter by 0.35 percent over the corresponding period of the previous year.

The approximate number of passengers booked by Railways in the month of December 1978, was 294 million, an increase of 9.24 million (3.25 percent) compared to December 1977. The suburban traffic registered an increase of 6.77 percent but the non-suburban traffic declined by 1.54 percent over the corresponding month of last year.

Cumulative total revenue-earning tonnage lifted by the Railways during the period April to December 1978 was 147.04 million tonnes, 8.11 million tonnes less than the corresponding figure of the previous year.

The originating revenue-earning freight traffic of the Railways in December, 1978 amounted to 16.99 million tonnes, a decrease of 1.61 million tonnes as compared to the corresponding month of last year.

Committee of Industrialists Reports

Mr. George Fernandes, Union Minister of Industry, received recently the report of the Committee of Industrialists that was set up to review the existing procedures relating to grant of letters of intent, industrial licences, approvals for foreign collaboration, import of capital goods, registration with Director General of Technical Development etc., and, to suggest ways and means to improve the procedures to eliminate avoidable delays.

The report was presented to the Ministry by Mr. H. P. Nanda, Chairman of the 14-member Committee which was set up on October 9, 1978.

Substantial liberalisation in these matters had already been brought about by the Industrial Policy Resolution of December 1977 and the implementation of decisions of the Study Group on Industrial Regulation and Procedures. Medium operators got freedom to operate in a number of areas without having to go through procedures of industrial licensing, and, import of capital goods and raw materials was liberalised.

Computer Installed by ECIL at NIO

A third generation computer, TDC-316, was installed recently by the Electronics Corporation of India Limited (ECIL), Hyderabad at the National Institute of Oceanography (NIO). This marks the availability of the system for the user community including scientists, technologists and various other interested parties in Goa. The first phase of the system consists of Central Processing Unit (CPU) with two magnetic tape transports, a card reader, teletype, printer, etc. The second phase will include additional magnetic tape transports and magnetic disc-drive, business emulator, memory protection and allocation, floating point processor, system clock and various miscellaneous items. The core memory of the system will be increased further. The second phase is likely to be installed by March 31, 1979 and would

start operating during the following month. The computer would be able to undertake the various types of scientific and commercial data processing work. Although the computer would be used mainly for the processing and analysis of oceanographic data, for the Indian National Oceanographic Data Centre (Planning and Data Division) of NIO, computer time will also be available for jobs from other institutions and agencies in Goa.

Science and Technology

Assessment of Explosion and Underground Fire

Hazards from explosion and fire have always been associated with the winning of coal by underground mining. Formulation and planning of safety measures against such hazards require knowledge about their origin and nature. Causes and nature of explosions are generally evaulated from the results of analysis of post-explosion gases and dusts on roadways. Visual observations of flames and evidence of violence are also taken into consideration.

Central Mining Research Station, CMRS Dhanbad has attempted at a suitable empirical index for interpretation of the nature of explosion and carbon-hydrogen ratio of combustion products has been treated as an index for this purpose.

Barring a few inorganic fuels which are likely to be absent from underground mines except during shot firing of explosives, most of the fuels are compounds of carbon and hydrogen in different proportions. Partial and complete combustion of such hydrocarbon compounds require definite amount of oxygen.

From gas analytical data obtained from the experimental explosions carried out in CMRS, planned explosions in experimental mines abroad as well as actual cases of explosions in underground mines of India, carbon-hydrogen ratio has been determined in each case. Co-ordinating these results with nature of explosions, some conclusions have been derived which will act as guidelines for assessment of explosions.

The carbon-hydrogen ratios in methane explosions have been found in general to be lower than the expected theoretical value of 3 and remained between 2.30 and 2.80. It has been observed that the hydrogen of a hydrocarbon fuel burns preferentially before the carbon. A faster rate of combustion, high energy impulse on initiation, insufficiency of oxygen, sudden cooling —all tend to form soots.

Since an underground coal dust explosion causes the seam and the strata to be shaken and disturbed the methane build-up during the post-explosion period is considerable. As this gas has not participated in the explosion, carbon-hydrogen ratios employed for interpretation have been calculated on a methane free basis. The blackdamp emission affects the value but has been ignored in view of rather less frequent occurrence of blackdamp from seams and the difficulty in applying correction for such omission. It is, therefore, expected that the carbon-hydrogen ratio calculated from the post-explosion gases would not exceed the value of 20, except in the case of highly carbonised anthracite. Investigations carried out in Bruceton experimental mine showed that the value rarely exceeded 16, even in case of violent explosion. Carbonisation is a likely result of high velocity propagation and this has been confirmed by a number of investigators of India as also of abroad. The carbon-hydrogen ratio is expected to be between 3 and 16 in all cases where coal dust explosions take place and the variation may be attributed to violence of explosion, nature of initiation, velocity of flame propagation, nature of coal and evolution of carbon dioxide from stone dusts which are used as defence against explosion. In case of methane initiated explosion the value may be depressed.

Carbon-hydrogen ratio can also be put into use for ascertaining the source, nature and degree of underground fire which is caused due to burning of (i) wooden prop, brattice cloth, etc,. (ii) fuel of petroleum origin such as oil, and (iii) coal.

Wood as well as jute and cotton brattice is primarily made of cellulose having practically very little available hydrogen. Carbon-hydrogen ratio in this case would be very high in view of the insignificant denominator.

Carbon-hydrogen ratio between five and seven speaks of complete combustion of diesel and other fuel oils. Of course, incomplete combustion will show much lower figure.

In case of burning of coal, intensity of the fire increases with the increase of carbon-hydrogen ratio. When this ratio is appreciably lower than that of actual coal and rate of oxygen consumption is fast, the fire is considered to be superficial and extensive. But, slow rate of oxygen consumption indicates superficial and localised burning.

Fast rate of oxygen consumption and high value of carbon-hydrogen ratio speak of blazing and extensive burning. But, fire will be considered blazing and localised if oxygen consumption

is found slow with high carbon-hydrogen ratio.

A few cases of different stages of fire and carbon-hydrogen ratio obtained in each case which may be referred to as a guide during assessment of the state of fire.

Though the proposed index appears rational from the point of view of theory, it should be taken as a broad guideline. As such, in case of actual interpretation, observable evidences should be taken into consideration.

Breakthrough in Biogas Technology

The Structural Engineering Research Centre (SERC), Roorkee has developed a gas holder of ferro-cement for biogas plants for two cubic metre gas per day. This has been found to be more economical as compared to steel gas holder, the cost being, Rs. 1,800/- as against Rs. 2,332/- of conventional design. The ferro-cement gas holder is strong as the reinforcement is prestressed with a special mould developed at SERC. Ferro-cement gas holder has better performance in winter, needs minimum maintenance and has longer life. Repairs can be carried out more easily. Ferro-cement technology is labour intensive and makes use of local materials and local labour. Besides, expensive machinery is not required for the fabrication of such a gas holder.

SERC is one of the eight institutions in the country which have taken up an All India Co-ordinated Project on Biogas. This time-bound research programme has been sponsored by the Department of Science & Technology at a total outlay of Rs. 2,635 million for three years. The programme was started in 1976 with a view to improving the efficiency of gas plants and its appliances, making them cheaper and bringing them within the reach of even small farmers.

The research programme has been going on in fermentation kinetics; improvement of industrial burners; problems of corrosion of gas holder, reduction of the cost of family size gas plants by using alternate materials; research work on microbiological aspects; use of different organic waste for production of gas including human excreta and structural design for family, village level and community gas plants.

The Planning Research and Action Division (PRAD) at Lucknow has achieved a breakthrough in designing Drumless Janata Biogas Plant. The cost of the drumless plant is nearly half the cost of the conventional plant. The reduction in cost is due to the use of alternative material of construction used and minimum use of cement in the whole civil construction work. It is easy to build and its operational cost is negligible. The plant sizes vary from two to six cubic metre. The construction of a plant of new design is under way to further reduce the cost using clay and lime mix.

The Institute has done work on insulation studies for increasing the gas production. Different biogas gadgets such as burners and room heating system have also been developed.

The Khadi and Village Industries Commission (KVIC) has initiated work on commercial gas appliances. The Commission has concentrated on improvement of domestic burners, corrosion of gas holders, fermentation kinetics like the effect of addition of hot water on production of gas and addition of different organic materials; and maintenance of temperature of digested slurry. KVIC has installed about 100 ferro-cement gas holders in the f It has designed suitable burners wl work with 60 percent efficiency. of these burners will substantially br down the gas consumption per per per day. To meet the demand for dustrial burners, burners, ranging fr 40 cubic feet capacity to 300 cubic capacity have been developed.

KVIC proposes to instal 500,000 plants in the 6th Five Year Plan. T will create an annual production ca city of 1,176 million cubic metre of (equivalent of 750 million litres kerosene). In addition about 12 mill tonnes of organic manure would available which otherwise would ha been burnt as fuel in the form of cowdu cakes. The entire programme will pr vide jobs to over 2,000 educated unem loyed and 40,000 skilled and sen skilled workers. The Indian Agric tural Research Institute, at New Del has done work on chemical investiga ions of biogas slurry, effect of additiv on biogas production and the use algae for increasing methane productio Engineering aspects of low cost burne are being studied at the Institute.

The other institutions which have don commendable work in this field are th Department of Physics, Lucknow Uni versity, National Environmental Engi gineering Research Institute (NEERI) Nagpur, and the Indian Institut of Management (IIM) Ahmedabad NEERI is working on problems relat ing to environmental conditions. IIM Ahmedabad has completed a socio economic evaluation of different type of gas plants and their acceptability in different regions.

New Standards Published by ISI

Indian Standards Institution (ISI) has published an Indian Standard

pecification for dyes for Water-based Writing inks (IS:8642-1977), which rescribes the requirements and the ethods of sampling and test or dyes used in the manufacture f water-based writing inks. The quality f writing ink, among other factors, epends upon the quality of the dye used n the ink. The manufacturers of inks ad been experiencing considerable ifficulty in obtaining the requisite uality of dye from indigenous sources. t was, therefore, considered necessary o formulate a standard for dyes sed in ink industry.

The dyes covered under this standard re ink blue, acid green, acid violet, igrosine, direct black, crocein scarlet, osine, acid fast scarlet, tertrazine ellow and acid black. It is expected hat this standard will help the producers of ink to procure the dyes of ssured quality in the country.

The standard provides for Certification Marking of the product manufactured ccording to this specification, under he ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

ISI has also published Indian Standard methods for determination of tap density of metallic powders (IS : 8871-1978), which prescribes methods for the determination of tap density that is, the density of a powder that has been tapped in a container under specified conditions. This standard has been prepared in order to establish a uniform practice of determining the tap density of metal powders.

Another standard published by ISI relates to method for determination of residue on chlorination of tungsten metal powder (IS:8876-1978), which prescribes the method for determination of residue on chlorination of tungsten metal powder which is a measure of the purity of the sample. This standard has been prepared in order to establish a uniform practice of determining the residue on chlorination of tungsten metal powder.

Copies of the standards are available from the offices of the Indian Standards Institution located at New Delhi, Ahmedabad, Bangalore, Bhopal, Bhubaneshwar, Bombay, Calcutta, Chandigarh, Hyerabad, Jaipur, Kanpur, Madras, Patna and Trivandrum.

Highlights of Pre-Budget Economic Survey

The pre-Budget Economic Survey presented to the Parliament recently by the Deputy Prime Minister and Finance Minister, Mr. Charan Singh, has described the performance of the Indian economy as must encouraging in 1978-79.

The survey states that the growth impulses generated in 1977-78 have been carried forward to the current year and the economy is well set on the path of growth. A growth rate of 3.5 percent in the Gross National Product (GNP) is expected in the current year and according to the survey this is not an inconsiderable achievement coming as it does on the top of a very high rate of growth of 7.2 percent in 1977-78.

Agricultural production will be marginally better than last year's record production despite devastating floods over large parts of the country. Food stocks are expected to increase to 20 million tonnes and supplies of other essential consumer items like sugar, edible oils and fibres have been satisfactory.

A remarkable aspect of the performance of the economy in the current year is the relative price stability, despite substantial rise in money supply. Th has been achieved through a restrictive monetary and credit policy as well as skilful supply management. Between March 1978 and December 1978, the wholesale price index shows an increase of only one percent.

Industrial production has shown a remarkable recovery in the first eight months of the current year and for the year as a whole, the rate of growth is expected to be about 8 percent. Capacity utilisation has increased substantially throughout the system.

In the first eight months of the current year, exports are lower than in the same period in 1977-78. Novertheless foreign exchange reserves show an increase of Rs. 5820 million till the end of January 1979 because of a continued growth in non-export receipts, though at a slower pace.

Striking an optimistic note about the outlook for the economy, the survey has called for the proper utilisation of the exceptional advantages obtaining in the economy such as price stability, foodgrain stocks and foreign exchange reserves for achieving higher rates of growth and investment in the coming year. According to the Survey, with the steady improvement in power generation and liberal imports of producer goods it should be possible to step up capacity utilisation on a wider front.

While expressing satisfaction at the steady and reasonable growth in agriculture, the Survey has laid emphasis on crop planning, more research, better extension, more comprehensive purchase and price support arrangements as the possible way out for overcoming shortages of pulses, oil seeds and fibres. The Survey has commended the progress made in extending irrigation and has suggested the need for taking up more expeditiously minor irrigation

and large and medium irrigation. While commending the package of measures taken to improve agricultural production such as, extension of irrigation, hybrid seeds, fertilizers support prices, agricultural credit etc. the survey has strongly advocated the need to expedite land reforms, tenancy reform and consolidation of holdings if the lot of the small and margnial farmers, agricultural labourers and weaker sections depending on agriculture has to make perceptible improvement.

Referring to the basic problem of unemployment in the economy, the Survey pointes out that though agricultural growth would absorb a good number of unemployed, the balance which is sizeable needs to be provided employment in rural and small scale industries. However, the Survey finds that the progress has not been what it should be and suggestes that the problem has to be solved through a better supply and marketing organisation and developing an appropriate technology which can utilise the abundant manpower and greater access to credit.

The Survey has observed that the stability of prices in the economy was as much due to the skilful and imaginative supply management as to a very tight credit and monetary policy. In view of the large scale monetary expansion that has taken place in the last three years, the survey has called for a continuation of restrictive monetary policy along with a fiscal policy which would contain the liquidity in the system.

According to the Survey, the process of utilising of foreign exchange reserves for productive purposes has begun. However, it notes that since the circumstances which helped the country to build up a sizeable foreign exchange reserves might not continue, the country would have to plan more vigorously for growth in exports which has been adversely affected during the last two years. In this connection, the Survey recommends the continuation of export assistance and to maintain it fairly stable over a period of time.

The Survey has estimated the growth in Gross National Product at 3.5 percent in 1978-79 as against 7.2 percent in 1977-78. Although industrial growth will be about 8 percent, agricultural growth will be only nominal as the achievement last year was a record 13.9 percent. Both savings and investment as a proportion of GNP are expected to be better in the current year as against 22.4 percent and 21.3 percent respectively in 1977-78 and the discrepancy in savings and investment would also narrow down further in 1978-79.

Reviewing the agricultrual propsects for 1978-79, the Survey anticipates the kharif crop to be about the same level as in 1977-78 despite devastating floods in many parts of the country. On the other hand, the prospects for rabi crop, appear to be brighter. The production of foodgrains might exceed the target of 126 million tonnes. Among commercial crops, cotton is likely to exceed the record crop of 7.16 million bales reached in 1974-75. Groundnut and other oil seeds are also expected to fare equally well. In spite of flood damage, raw jute crop might exceed last year's production level.

The Survey, has stated that even after making allowance for good weather conditions, the trend in agricultrual production in recent years indicates the strengthening of the country's productive potential and its tendency to stabilise at higher levels.

In this context, the Survey has d attention to the substantial inc in production of wheat and ri States which are not traditio producers of these cereals. But position of pulses and cash like oilseeds and even cotton continue to be unsatisfactory de remunerative support prices and t fore, calls for further steps to their production through intensific of research. Similarly, there need to divert land to these from others whose output has stab at high levels.

The steady improvement in agricu has been attributed to the increa irrigation potential, particularly m irrigation, spurt in fertiliser cons ption, production and use of qua seeds, increased institutional fina for agriculture and price support s mes. In 1977-78, 2.6 million hect are estimated to have been brou under irrigation, while the target 1978-79 is 2.8 million hectares. Ferti consumption in 1978-79 is likely be higher than 4.29 million ton of fertilizer consumption in 1977- The Survey has laid particular phasis on implementing land refor tenancy reforms and consolidation holdings and has called for expediti distribution of land declared surpl

The Survey estimates that the r of growth in industrial product in 1978-79 would be about 8 perce as compared to the growth rate 3.9 percent during 1977-78. It substantially higher than the avera of 4.8 percent for the period 1970- to 1977-78.

Impressing recovery has been record in electricity generation which is by 12.9 percent in the first nine mon of the current year. Other industr which have shown significant impro

nents are food manufacturing, beverages, electrical and non-electrical machinery, metal products, paper and paper products and chemicals and chemical products. Textiles which had showed sluggish growth in the earlier years, have improved their performance by recording a growth rate of 5.9 percent. The industrial group to have suffered a set-back is the manufacture of transport equipment which shows a decline of 1.8 percent. Two major sectors causing anxiety are coal mining and steel. The former was affected by floods the latter by power shortage. However, the former has since recovered from the ravages of the floods and the output of mini steel plants has compensated for the decline in the latter.

Public sector enterprises have recorded a growth rate of seven percent in the first eight months of the current year, although the performance has not been uniform in all units. Good performance has been achieved in units like BHEL, HMT, National Instruments, Scooters India, Hindustan Organic Chemical, etc. A noteworthy feature in respect of public enterprises is that the capacity utilisation has been showing steady improvement in recenty years in a large number of units and in 1977-78 this shows further improvement.

Appraising the significant policy developments in the industrial sector during the current year, the Survey observes that the sugar decontrol should help the industry to stabilise itself, while the integrated textile policy is intended to bring harmonious balance between the use of cotton and synthetic fibres. This will also help the handloom and khadi sectors because of the freezing of the weaving capacity of the organised mill and powerloom sector.

A notable feature of the Indian economy, according to the Survey, is the remarkable stability in the price level. The wholesale price index shows just one percent increase between end March, to December 1978. Significantly, food articles were somewhat cheaper although price of pulses showed an increase of 3.1 percent. However, the movement in consumer price index in this period presents a contrast to the whole price index by advancing from 321 in March 1978 to 335 in December, 1978 thus registering an increase of 4.4 percent. It is noteworthy that the price stability has been achieved in spite of considerable degree of monetary expansion. This has been possible through skilful supply management of essential commodities through imports and better distribution arrangements.

The Survey notes that following import liberalisation, imports showed a substantial increase of 19.6 percent in 1977-78 compared to a decline of 3.6 percent registered in 1976-77. In contrast, exports which were registering handsome rates of growth since 1972-73 have slackened and recorded a small increase of only 4.6 percent in 1977-78. In consequence, the trade balance turned into a deficit of Rs. 6930 million in 1977-78 in contrast to a trade surplus of Rs. 690 million achieved in 1976-77.

Nevertheless, the country's foreign exchange reserves showed a record increase of Rs. 18,850 million (exclusive of IMF transactions), thanks to the continued buoyancy in invisible receipts.

On the basis of the data available for the first eight months of the current year (1978-79), the Survey observes that there has been a further deterioriation in exports which have recorded a decline of 2.3 percent in this period compared to last year's performance during the same period. Imports, on the other hand, are up by 21 percent compared with last year. Consequently, trade blance shows a large deficit of Rs. 7290. The large increase in imports have taken place in such goods like raw materials, intermediates and capital goods such as cotton, steel non-ferrous metals, fertilisers, man made fibres and machinery to sustain the growth in industrial production.

The Survey points out that despite the deteriorating trade balance, the country has continued to add to its foreign exchange reserves, though at a slower pace, after clearing all its outstanding debts to the International Monetary Fund. The country's foreign exchange reserves as at the end of January, 1979 stood at the high level of Rs. 50,820 million (excluding gold and SDR's) although both export receipts and non-export receipts have shown a slackening trend. Nevetheless, the Survey has expressed serious concern over the decelerating trend in exports. The Survey strongly emphasises the need to devise a strategy to stimulate growth of exports by continuing export assistance with appropriate adjustments and making exports an integral part of the strategy of development.

In the industrial sector, the Survey has emphasised the need to step up investment especially in the crucial sectors like coal, power, steel, cement and non-ferrous metals with a view to create additional capacities.

The Survey expresses concern over the declerating trend in the growth

of exports. It recommends not to look upon exports as a way to sending out surpluses only. In view of the manoeuvrability which growing exports confer on policy making, they should be an integral part of our development strategy. In this connection, the Survey has emphasised the need for developing agricultural exports as a part of export strategy to help the economy of the farmers and to teract the many restrictions im by developed countries on our ex of major manufactured products.

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Milan International Fair, Milan (Italy)	April 14-23, 1979
Thessaloniki International Fair, Thessoloniki (Greece)	May 24-28, 1979
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
Mozambique International Fair, Mozambique	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Tehran International Fair, Tehran (Iran)	September 19-October 1, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
International Fair of Santiago (Chile), FISA '79	October 25-November 11, 1979
International Furniture Fair, (MEBUL FAIR) Brussels (Belgium)	November 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March, 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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News Highlights

IDPL Wins Algerian Contract

An agreement was signed recently between Indian Drugs and Pharmaceuticals Limited (IDPL), a public sector undertaking, and the Algerian national company, Societe Nationale des Industries Chimiques (SNIC), under which IDPL will assist in planning, monitoring and control of the proposed pharmaceuticals project in Algeria. The value of the initial contract is Rs. 5 million. The IDPL will provide technical services in the pre-project period, during the construction and at the time of commissioning of the pharmaceuticals plant.

Indian Engineering Exhibition at Jakarta

The Indian Engineering Exhibition (INDEE '79), which was inaugurated by Mr. Adam Malik, Vice-President of Indonesia recently seeks to project India's achievements in the field of engineering and the country's capability as an alternate source of supply of equipment and engineering goods to other Asian countries.

Indo-Soviet Cooperation in Coal Utilisation

The long-term programme of economic,

(*Contd. on page 2*)

Export Performance and Potential

Indian Engineering Fair at Jakarta

Greater economic cooperation among developing countries through the effective canalisation of their own resources has become an imperative which can no longer be ignored in view of the growing protectionist trends in the developed world. Speaking as chief guest at the inauguration of INDEE'79—Indian Engineering Exhibition at Jakarta recently Mr. Biju Patnaik, Union Minister for Steel and Mines, said that the exhibition which was the largest of its kind organised by India overseas, would help promote better economic ties between India and countries of the South-East Asian region.

The exhibition, which was inaugurated by Vice-President, Mr. Adam Malik of Indonesia, seeks to exhibit India's achievements in engineering and to project India as an alternate source of supply to other Asian countries for equipment and engineering goods.

Recalling the traditional ties between India and Indonesia, Mr. Patnaik said that the two countries were common progenitors of the philosophy of non-alignment and were the common sponsors of the historic Bendung Conference which for the first time brought together the newly emerging nations of the former colonial empires. In a nostalgic vein, Mr. Patnaik said that more than thirty years ago, he had the privilege of participating in Indonesia's struggle against colonialism. It was unforunate that the common cultural past and the political relationship had not been adequately reflected in their bilateral economic relations. The problem for India and the developing world was one of providing basic amenities to the common people, a problem of staggering proportions which involved

trade, scientific and technical cooperation between India and the USSR includes cooperation in the field of coal utilisation, development of process for production of fuel, gas, liquid fuel and chemicals from coal, use of material recovered from coal preparation, wastes, etc.

NPC Reconstituted

TheGovernment has reconstituted National Productivity Council (NPC) to enable it to move in new directions which have become important in the context of country's economic needs and the declared policies of the Government, such as the development of rural areas, small scale industry, and railway and port operation. Mr. George Fernandes, Union Minister of Industry, will be the President of the Council.

Export of Jute Authorised

Government of India have decided to authorise export of 100,000 bales of raw jute of medium and low grades. The export will be canalised through the Jute Corporation of India.

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tremendous investment of finance as well as very high order of adr nistrative capabilities.

A way out for the developing countries would be to assist each other the basis of their shared experience. Mr. Patnaik said that one of most suitable ways of achieving this would be to promote joint ventu with the developing countries pooling their resources, finance and techn gical capabilities. India had made a modest beginning in Indone where there were eight Indo-Indonesian joint ventures operating, w another 8 to 10 joint ventures in various stages of implementation. T kind of joint ventures executed by Indian entrepreneurs had good poten for creating employment and transfer of technical skills, a process wh needed to be accelerated.

The Minister stressed that a major obstacle in developing mutual coo ration had been the communication gap. He described the exhibit as a serious attempt to bridge this gap, by making the decision-mak and the business community in Indonesia and the South Asian regi aware of India's technological capabilities. He said that this would a serve to acquaint the Indian exhibitors with the opportunities that exist in Indonesia which was about to embark on its Third Five Year Pla Mr. Patnaik, who was on a week's visit to Indonesia, held discussions wi Indonesian Ministers of Trade, Industry, Economic Affairs, Mines a Energy on possibilities of greater economic cooperation between the tw countries in various sectors of industry. The Minister was assisted the talks by the Chairmen of various public sector undertakings, includir the Steel Authority of India Limited (SAIL), National Small Industri Corporation (NSIC), National Mineral Development Corporatio (NMDC), Hindustan Steelworks Construction Limited (HSCL) an MECON.

It may be recalled that besides the areas of cooperation identified in variou sectors, including small-scale industries, steel, non-ferrous metals and join ventures in industrial projects, India had also offered to share her expertis in steel and engineering for the development of the steel industr in Indonesia.

India to Participate in Textilia '79 in Greece

As decided by Government of India, Ministry of Commerce, the Trad Fair Authority of India will be organising India's participation in th forthcoming Textilia'79—Textile, Ready-to-wear, Equipment Inter national Fair to be held at Thessaloniki (Greece) from May 24to28 1979.

This specialised Fair related to textile, ready-to-wear and related machinery will be the first textile fair of its kind to be held in Greece. It offers an excellent opporunity to display and negotiate on the spot business for Indian textiles, handlooms and machinery. To project the image of India in the field of textile and related industries, emphasis will be on the displa of high quality exhibits, latest designs and colours which Indian textile industry produces and exports.

A suggestive list of exhibits for display in the Fair is as under : *machinery and equipment*—machines, equipment and parts for textile industries, knitting industries and ready-to-wear clothes industry ; *textiles*—threads-yarns-fibre, cloth for men and women, linings, interlings and felts, ready-to-wear clothes for men, women and children, knitted clothes and underwear, fur garments and imitation, accessories for men and women, bed covering-curtains-furniture clothing, white and coloured linen for household use, raw material

for the textile, knitting and ready-to-wear clothes industries, handloom fabrics-dresses, scarves, ties, dress material-handloom and photographs.

The Authority will bear expenditure on transport/despatch of exhibits by sea from Bombay to Greece and back to any port in India. In case, one is desirous of air-freighting one's samples/exhibits, one may do so at one's own cost and risk. It has been ascertained that air-freighting charges between Bombay to Thessaloniki for cargo weighing less than 45 kilomgrams are Rs. 31.17 kilogram and for more than 45 kilograms Rs. 23.97 per kilogram, subject to any change in the rates, at the time of actual air-freighting of the exhibits/samples.

The participation in this Fair will be subject to usual terms and conditions for participation in international fairs/exhibitions abroad and the approved participants would be required to :

(a) Pay token contribution towards participation at the rate of Rs. 400 per sq. mtrs. of gross area booked. Net area available for display of the exhibits will be about 50 percent of the gross area booked. The minimum area to be allotted will not be less than 5 sq. metres and the exhibits will be clubbed with those of others who book space similarly. Participating units booking more than 20 sq. metres of space will be allowed to have their identity separately within the overall design and display of India pavilion.

(b) Pay 10 percent of FOB value of exhibits or the sale price whichever is higher, to Director, India Pavilion or his nominee in case the exhibits are sold or handed over to agents of representatives of participants after close of the Fair.

(c) Send the exhibits to TFA's nominated clearing/forwarding agents at the Indian port indicated at their cost/insurance and have them collected on return at any Indian port intimated by the Authority from its nominated agents at their cost and insurance and on payment of all duties (countervailing duty, excise duty etc.) on hearing from this office/its handling agents.

(d) Arrange despatch of exhibits by air at their cost and risk in case goods are not delivered to nominated clearing/forwarding agents by the last date indicated below or in the event of last suitable sailing having been postponed/cancelled, in which case, exhibits would be required to be insured by participants at their cost till final disposal of their return to India. The air consignments sent directly by party will not be insured by this Authority for return journey.

(e) Ensure sending quality exhibits/samples properly packed alongwith adequate printed literature/catalogue/price lists etc. both in English and Greek, if possible. All exhibits/display material after TFA's approval and completion by the participants of all formalities including GRI approval from the regional office of the Reserve Bank of India alongwith all relevant documents and 14 sets of invoices are to be handed over to Authority's forwarding/handling agents at Bombay by March 30, 1979 : M/s. Lee and Muirhead (India) Pvt. Ltd., 12-K, Dubash Marg, Bombay-400-023 ; Telex No. 011-2304 ; Cable : LEEMUIR-Bombay ; Telephone : 258421.

The exhibits should be sent to the handling agents only after they have been approved by the Authority. The exhibits, in case sent by party to the clearing agents at Indian ports without the written prior approval of the Authority, will be at party's cost and risk and neither the Authority nor its agents will be in any way responsible for such exhibits/any loss/damage etc. to the exhibits.

The Authority will consider, on merit, the request of approved participants for release of foreign exchange to the representative(s) of participants to attend to on the spot business negotiations and make necessary recommendations to the Reserve Bank of India for the release of foreign exchange as per existing rules.

Looking at the importance and business prospects of the Fair, one would like to avail of the opportunity and participate in an impressive way. As the space available is limited, the intending participant may let the Authority know their plans for participation and space requirements on an urgent basis. A complete list of exhibits proposed to be sent for display indicating value and quantity of each item as well as gross weight (in packed condition) and relevant literature may also be sent for Authority's approval before despatch/delivery of the exhibits to its handling agents.

Export Performance of an Indian Company

M/s Tata Exports Limited have been contributing their mite to the foreign exchange earnings by exporting non-

traditional products to new markets. Their export turnover amounted to Rs. 836.9 million in 1977-78 which was higher by 49 percent on the average of the previous, three years' exports of Rs. 561.7 million.

Established in 1962, Tata Exports has been engaged in pioneering and diversifying exports of a sophisticated range of products. These have included steel, a wide range of engineering products, chemicals and chemical products, including toiletries and cosmetics, textile and textile garments, finished leather and leather garments. In the sophicticated engineering products are included commercial vehicles, power and transmission equipment, railway equipment and track materials, drilling and mining equipment, agricultrual and construction machinery sugar mill machinery and steel plant equipment.

The company has set up a sophisticated factory of finished leather and leather garments.

Tata Exports has, in recent years, given special attention to the development of exports of higher-added value incuding projects on a turnkey basis and products of small scale and cottage industries, thereby generating employment in rural areas. These include diamonds and leather products for which it is helping to set up special complexes.

All India Machine Tool Exhibition

The fourth All India Machine Tool Exhibition (IMTEX'79) sponsored by Indian Machine Tool Manufacturers Association (IMTMA) was held recently at Bombay. In a message to IMTEX'79 the Union Minister of Commerce, Civil Supplies and Cooperation, Mr. Mohan Dharia said that he was very happy to note that this was mainly an export-oriented exhibition attracting a number of foreign delegations consisting of manufacturers, importers and distributors of machine tools. The Minister observed that the machine tool industry in India had made commendable progress and had been making substantial contributions to the export effort. He hoped that IMTEX'79 would be helpful in further increasing exports of machine tools from India.

About 285 firms participated in the exhibition which displayed a wide range of machine tools such as metal cutting and forming machine tools, welding, plastic moulding, wood working, foundry machinery, measuring and testing equipment; small tools like cutting tools, measuring instruments, machine tool accessories and attachments, electronic controls and equipment, etc. Sophisticated machine tools, measuring and testing machines, controls and accessories, imported from advanced countries of Europe and America also formed a part of the display. A large number of foreign visitors consisting of manufacturers, importers, dealers and agents from advanced countries of Europe, America, Australia, Japan and developing countries of Africa, South-East Asia and Middle-East visited the exhibition. Seminars by foreign collaborators of IMTMA members on advanced technologies in machine tools and production engineering and meetings/discussions between participants in IMTEX'79 and major user industries and buyers of machine tools were organised during the exhibition. An International Industrieal Diamond Seminar organised by the DeBeers Industrial Diamond Division of UK in co-operation with Industrial Diamond Asscoation of India and IMTMA was also organised.

According to the President of Indian Machine Tool Manufacturers A ation, Dr. C. A. Phalnikar, fron small beginnings made in the f decade of this century, the I machine tool industry today pro machine tools of the value of a Rs. 1,200 million. In the early s only simple machines like la shaping and drilling machines being made. But today a wide r of general purpose machines, he duty and complex types of mac tools and transfer lines are b produced. The tempo of gro has been particularly remarkable the last 7 years as in evident f the following table :—

The machine tool industry depe for its survival on the needs of user industries. Therefore, the gro in the user industries acts as a cata to the progress of the machine t industry. The growth in the machi tool production during the last 7 8 years has been mainly on accou of the growth in the industrial activ in the country, especially in t engineering industries.

From the table given on the ne page, it would be observed that t machine tool industry has made consid able progress in the export of machi tools. A machine tool for export has meet the international market requir ment in quality, design, specificatio and competitive price. Today, a wi range of machine tools such as lathe drilling machines, milling machines et are also exported by India to dev loped countries such as USA, Canad West Germany, UK, Australia, etc.

Indo-BLEU Trade Trends

According to a mothly report o economic and commercial condition in Belgium received from the Embass of India, Brussels, India's exports t BLEU's during nine month

(Rs. in million)

Year	*Production*	*Imports*	*Exports*
1972	494.6	236.4	21.0
1973	622.6	286.7	36.9
1974	884.4	294.6	71.2
1975	1040.3	440.5	81.8
1976	1168.5	444.9	169.2
1977	1095.7	N.A.	200.0
1978	1200.0	N.A.	170.0

January-September) 1978 at +BF 7270 million rose by 37.3 percent over the exports at +BF 5295.7 million during the corresponding period.

Major commodity-wise increases were registered in precious stones, mainly worked diamonds (+BF 2071.8 million) ; bed lines, sacks and other made-ups of textiles, except clothing, (+BF 39.8 million) ; vegetables (+BF 32.4 million), floor coverings, (+BF 27.4 million), vegetables oils, (+BF 8.9 million), minerals (+BF 7.6 million), works of glass (+BF 5.6 million) and chemicals (+BF 5.8 million). Smaller increases were witnessed in spices, travel goods, automobile parts, non-ferrous metal waste, electrical apparatus, slate, leather, items of minerals, embrioderies, shrimps, froglegs, fruits and nuts, footwear (mainly gym shoes), and wooden articles.

However, decline was noticed in India's exports to BLEU in certain items such as crushed bones, coffee, oilcakes, jute fabrics, machines and machine tools, tobacco, oilseeds, cotton fabrics, mica, leather manufactures and clothing.

The growth rate of india's imports from BLUE rose a little faster than BLEU's imports from India, they reached 44 percent during the first nine months of 1978 as compared with 1977, (from BF 6903.9 million to BF 9943.1 million, an increase of BF 3039.2 million).

The rise was mainly due to a sharp increase of BF 3000 million in India's imports from BLEU of precious stones (principally unworked diamonds). Other commodities showing an upward trend were: milk powder (+BF 404.1 million), iron and steel products (+BF 95 million), chemicals (+BF 55.2 million), photographic material (+BF 44.5 million) vegetable oil (+BF 9.4 million) and plastic goods (+BF 7.4 million). On the other hand, India's requirements from BLEU of butter/butter oil declined by BF 338.4 million, machinery by BF 116.5 million, confidential traffic by BF 63.3 million and rags by BF 3.1 million.

India had an adverse balance of trade with BLEU worth BF 2,673 million during January-September 1978 as compared with an unfavourable balance of BF 1,608.2 million the year before.

Improved Performance of MMTC

According to the annual report, 1977-78, of the Minerals and Metals Trading Corporation of India Limited (MMTC), a Government of India undertaking, the Corporation earned in 1977-78 net profit (after tax) of Rs. 169.7 million as against Rs. 166.7 million in the previous year. The percentage of over-heads to sales was less than 1 and the percentage of net profit to sales was 1.8 compared to 2 in 1976-77.

After an increase of Rs. 303 million in exports in 1976-77 (the highest increase ever achieved by the Corporation), the year 1977-78 registered a further increase of Rs. 35 million in the export turnover of the Corporation, despite the continued recession in the world steel industry. On the import side also, the turnover of the Corporation in 1977-78 thus increased by over 11.5 percent as compared to the prevsious year. The details of the Corporation's trade turnover for the last two years are as under :

	(Rs. in Million) 1976-77	1977-78
Exports	1,986	2,021
Imports	6,393	7,316
Domestic	41	53
TOTAL :	8,420	9,390

During the year 1977-78, the exports of iron, manganese and other minerals were facing "crisis conditions" due to acute global recession in the steel industry and there was stiff competition

from other iron ore exporting countries. Nevertheless, the exports at Rs. 2,021 million were up by Rs. 35 million over the previous year.

The year 1977-78 was the third consecutive year of recession in the world steel industry. All the leading steel producing countries imported less iron ore than in the previous year. This development, in turn, led to most of the leading iron ore exporting countries/companies exporting less in 1977 as compared to 1976. However, MMTC's exports were 5 percent higher than in the previous year. In terms of value, the exports went up from Rs. 150 million in 1976-77 to Rs. 1,625 million in the year 1977-78. The unit value realisation was up marginally from Rs. 128 to Rs. 132 in the year 1977-78. Having regard to the continuing recession in the international steel industry and other environmental conditions, an export target of 13.2 million tonnes has been fixed for the year 1978-79. The Corporation is endeavouring its best to diversify the markets. China, Korea and Pakistan are considered potential markets for developing iron ore exports. Efforts are being made to make sales to these countries.

Exports of manganese ore of various grades are subject to quantitative restrictions imposed by the Government from 1973-74 onwards. Exports of high grade manganese ore (bearing Mn. content 46 percent and above) have been banned in principle and limited quantities of ore produced by Manganese Ore (India) Limited (MOIL) are being allowed to be exported from time to time which are being marketed by the Corporation abroad. As regards export of medium and low grade manganese ore, the export policy is laid down by the Government on a year to year basis. For 1977-78, the Government released a quantity of 700,000 tonnes for export of medium and low grade manganese ore, 130,000 tonnes of ore originating from Kalinadi Hydro-Electric Project sub-mersion zone and 120,000 tonnes of MOIL's high grade manganese ore. Consistent with the ceilings laid down for export of various grades of manganese ore, the Corporation had set a target of 675,000 tonnes for the year 1977-78 and concluded contracts for a total quantity of 940,000 tonnes, with Japan accounting for 810,000 tonnes (including 170,000 tonnes at buyer's/mutual option). The other buyers were South Korea, Taiwan, Czechoslovakia, North Korea and Spain. Actual exports, however, did not exceed 549,000 tonnes, valued at Rs. 131 million. The Japanese buyers did not exercise the option for optional quantity and their off-take during 1977-78 at 460,000 tonnes declined by 35 percent as compared to 711,000 tonnes during the previous year, mainly due to the recession in the Japanese iron and steel industry. As for the year 1978-79, the Corporation has set an export target of 700,000 tonnes of manganese ore (including black iron ore), valued at Rs. 163 million.

The year 1977-78 started on a note of optimism regarding export of coal. Having regard to the increase in coal production to the level of 100 million tonnes and the quantity of Indian coal having found technical acceptance by buyers abroad and their desire to diversify their sources of supply, an export target of 2.1 million tonnes was initially fixed for the year 1977-78, in consultation with the Ministry of Energy/Coal India Limited. However, due to internal demand and some other unavoidable circumstances the export target was reduced subsequently. Actual exports of coal during year 1977-78 were 609,000 to valued at Rs. 126 million ag last year's exports of 635,000 to valued at Rs. 167 million. In 197 in view of increase in local dem Government have decided to res coal exports only to neighbou countries such as Bangladesh, Bur etc.

A target of 200,000 tonnes of bar was set for exports during 1977- Against this, a quantity of 232, tonnes valued at Rs. 138 mill was exported which marked an imp vement of 52 percent in terms quantity and 33 percent in ter of value over 1976-77. It would worthwhile to mention that after cana sation, the unit value realisation barytes powder increased from $ 48. per tonne in 1975-76 to $ 58.40 1976-77 and $ 59.14 in 1977-7 The price stabilisation and increa in unit value realisation were achiev after canalisation by enforcing t floor price mechanism. The expo of barytes was canalised with effe from January 14, 1976. The expo policy for 1978-79 decanlised the iter The Corporation has secured a ne market for barytes in the USA.

Among the non-canalised items take up by MMTC, a quantity of 3,30 tonnes of bauxite, valued at abou Rs. 0.51 million was exported t Italy. Another agreement for suppl of 7,000 tonnes of bauxite to Ital during May-October, 1978 wa concluded.

The Corporation has been explorin the possibility of assisting in expor effort of the country by encouragin and assisting its clients in diversifyin their markets through entry into th export field. A scheme is being deve

loped under which duty free raw materials, the imports of which are canalised through the Corporation, will be supplied to the intending manufacturer-exporters. Interest has already been generated for the export of stainless steel utnesils and cutlery, sanitary fittings, hand knitting machines, copper conductors, etc. under such arrangements.

On the import side, the Corporation pursued the policy of ensuring adequate supplies of imported raw materials to the industry at reasonable and stable prices. At Rs. 7,316 million, the import turnover of the Corporation in 1977-78 registered an increase of 14 percent over the previous year, the fertilizer group alone accounting for an increase of 32 percent.

The Corporation has been putting in additional efforts to enlarge its market outside traditional areas as also to expand the export of iron ore fines. As part of such promotional activities, 32,000 tonnes of high grade lumps were exported to China and two shipments—one of 20,000 tonnes of low grade lumps to UAE and the other of 21,000 tonnes of fines to Abu Dhabi were made. In addition, a contract for supply of 100,000 tonnes of low grade fines was concluded with Kuwait. A trial shipment of 200,000 tonnes of Bailadila fines was also made to Japan.

An export target of Rs. 2,164 million, which is 7 percent higher than the performance for 1977-78, was fixed by the Corporation for the year 1978-79, with iron ore accounting for Rs. 1,566 million, manganese ore Rs. 163 million, coal Rs. 320 million, barytes Rs. 109 million and non-canalised items like granite and bauxite for about Rs. 5.2 million. The import turnover for 1978-79 is estimated at Rs. 8,840 million—nearly 21 percent higher than the preceding year.

Industrial Growth and Diversification

Facilitating Higher Industrial Growth

The Union Government has decided to withdraw the obligation on the part of cotton textile mills to use a minimum of 10 percent man-made fibre. The Government has decided also to allow the mills to carry larger stocks of cotton. In addition, the Cotton Corporation of India has been asked to gear itself to procure about 1.5 million bales of cotton instead of 1.2 million bales during the current cotton season.

This was disclosed by the Union Minister of Industry, Mr. George Fernandes recently in New Delhi at a meeting of the Parliamentary Consultative Committee attached to his Ministry.

These measures, he said, were being taken to remove the difficulties being faced by the cotton growers due to fall in cotton prices. He, however, added that although the present kapas prices were lower as compared to the previous season, these were still higher than the minimum support prices announced by the Government.

The Minister said that to meet the shortage of cement in the country, licences had been issued for 10 million tonnes additional capacity, of which 4.5 million tonnes was expected to be commissioned by the end of the year. This would raise the existing installed capacity of 22 million tonnes to 26.5 million tonnes. He added that letters of intent for 12 million tonnes had also been issued and applications for another 13 million tonnes were being processed. He expressed the hope that in the next two years, the problem of inadequate production capacity for cement would be solved.

To a question about the advisability of setting up mini-cement plants, the Minister said that their cement would not be sold at higher price because cement prices were pooled prices. Besides, such plants would minimise strain on railways, create more jobs and would be close to lime deposits and points of consumption.

About paper, the Minister said that besides utilising the existing capacity of paper mills fully, imports were also being made. Paper was being made available to educational sector for text books and exercise books at a concessional rate of Rs. 2,750 per tonne. The Industry Minister further informed that Minister of State for Industry had taken over the responsibility of maintaining greater liaison with the States to ensure a speedy implementation of the DIC programme.

Referring to the small scale industry, the Minister said that the small scale industries Board had met to discuss the problems faced by this sector and had made several suggestions. He said that more use of this Board would be in future to find prompt solutions to the problems of this sector.

Earlier, while reviewing the overall industrial situation in the country, Mr. Fernandes said that the rate of industrial growth for the current year was targetted at 7 to 8 percent, and he was confident that it would be attained. Prospectives for the new year were being drawn up in the light of experience gained and monitoring done during the current year.

Modernisation of Railway Workshops

The Union Ministry of Railways have initiated a major programme for modernisation of railway workshops in the country. A central organization has been set up to re-equip the workshops so as to ensure efficient utilisation of the rolling stock.

The Central Organization for Modernisation of Workshop is working out a ten year plan to carry out modernisation in all workshops. Five major workshops-Chittaranjan Locomotive Works and Workshops at Kharagpur (South Eastern Railway), Matunga(Central Railway), Kanchrapara (Eastern Railway) and Parel (WesternRailway) have been selected for special treatment during the first phase of the plan covering a period of 3 years. An expenditure of Rs. 1,100 million is to be incurred. The World Bank will provide assista ce to the extent of 95 million dollars.

The Indian Railway rolling stock is maintained primarily in 46 main workshops located in nine zones where locomotives, coaches and wagons have to go for complete overhaul on a strict periodical schedule. The day-to-day "running" repairs are carried out in 300 locomotive sheds or depots and in 400 "sick lines" which cater to the daily maintenance requirements of carriages and wagons. The size of these workshops vary from small units engaging as few as 150 men to large ones having about 15,000 workers.

With the tremendous growth in the country brought about by the successive Five-Year Plans, the demand for transport of men and materials on the Indian Railways has increased from an originating tonnage of around 90 million tonnes annually at the dawn of independence to over 200 million tonnes. Similarly, passenger traffic has more than doubled. This has necessitated large investment in augmenting traffic facilities, on track renewals and bridges, on new lines, restorations and electrification and above all on new and additional rolling stock.

The modernisation programme now being undertaken is expected not only to improve maintenance facilities but also help in renewal of machinery and plant in many of the railway workshops.

Steel Development and Expansion

Referring to steel development in India, at the recent UNIDO's 2nd consultative meeting in New Delhi, the Union Minister for Steel and Mines, Mr. Biju Patnaik said that the production capacity of steel in India had increased from about a million tonne three decade ago to a level of over 11 million tonnes now. Very soon, with the expansion programmes at Bhilai and Bokaro getting completed the capacity would go up to about 15 million tonnes per annum, apart from over 2 million tonnes of finished steel produced by a number of electric arc furnaces or mini steel plants. Plans for establishment of new shore-based steel plants were also under consideration. Looking at the way in which demand had risen in the country a rapid expansion of steel making capacity had to be thought of. The domestic demand for steel had picked up sharply, with an actual growth rate of 14.2 percent last year and expected growth rate of 17 percent this year. In this context a capacity of 40-50 million tonnes as an objective by the turn of the century would not be too ambitious.

Referring to self-reliance, The M held that unless a basic indus steel was established and the c achieved self-reliance in this sector, it would be difficult fo ensure a regular and sustained in the economy and in the co programmes of industrial develop The pace at which the establishm steel industry could take place depend upon factors like availa of raw materials; of important like power; of financial resource technical skills; and the priority would be attached by the planne this sector.

The self-reliance did not mean m the establishment of one or two plants. It was rather the adopti a complete and total concept w encompassed development of all capabilities to initiate, plan and exe the plants. It also look into acc the ability to manufacture the eq ment required for the steel plant; development of a wide technolog base through sophisticated training titutions producing adequate num of skilled workmen, technologi administrators, economists and ma gement experts; and the establishm of a strong research and developm organisation which would be capa of developing indigenous technolo and to some extent absorbing forei technology.

He observed that while expanding t steel capacity, effort had been made ensure development of an alrou capability for undertaking comple planning and construction of a ste plant. Large number of trainin institutions in the country were turnin out technical and management exper who now formed a solid core and wer manning important industrial com plexes which had been set up a

round the country. He mentioned that Indian professional workforce which included scientists, technologists, engineers, managers and skilled workers was the third largest in the world after the USA and the USSR. This, together with a highly diversified technological base and a large number of heavy industry complexes, had not only enabled Indian to undertake manufacture of the most sophisticated equipments required for the steel plants, but had also placed the country amongst the first 10 nations of the world as far as the total industrial production was concerned.

Indian consultancy and construction organisations had also concurrently developed capability of taking up turn-key projects in the establishment of large size steel plants. India had also become self-sufficient in its capabilities in the field for exploration and extraction of ores and other raw materials, and practically all the equipment for this purpose was also being produced within the country. The Minister said that this coordinated development had given the country today the confidence to plan for a much faster growth in the expansion of steel and allied industries.

The Minister pointed out that the era when the developing countries were only the suppliers of raw materials was now over and a stage had reached when the developing and the developed countries must act in concert and as co-partners in development. He also mentioned the proposal to jointly exploit with other developing countries their natural resources endowments for industrial cooperation to their mutual advantage. There was no reason, for instance, as to why their large reserves of iron ore, after conversion into pellets, could be used for the production of sponge iron, through gaseous reduction in those countries where natural gas was in abundance, to serve as a basic input for steel production in both the countries. He said that as India had vast reserves of non-coking coal, a project had been initiated with the asistance of UNDP and UNIDO for production of sponge iron, using coal as reductant. This project is getting established near Hyderabad and would be commissioned by the beginning of 1980. Success of this project would unfold a new chapter in the steel development history of India, making it possible for the country to adopt, in a big way, the route of direct reduction and electric arc furnace for production of steel.

Increased Contribution of Public Sector

Increased contribution to the national exchequer, improvement in resource generation, expansions, of employment base and more wages to workers marked the functioning of the public undertakings in 1977-78.

Public-sector undertakings contributed an amount of Rs. 18,020 million to the Central Government revenue in 1977-78 financial year. This represents an increase of Rs. 2,050 million over their contribution in the previous year.

Out of the total turnover of Rs. 25,330 mllion the Central Government undertakings retained Rs. 7,310 million, as against Rs. 7190 million retained in the previous year.

The annual report of the Central Public-sector undertakings placed before Parliament recently says that there was 20.7 percent increase in their total turnover, which stands at 175,560 million.

During 1977-78, foreign exchange earnings through exports amounted to Rs. 15,620 million, of which Rs. 4,060 million was contributed by the manufacturing group; Rs. 4,980 million by service enterprises and the balance of Rs. 6,580 million by the trading and marketing services.

The 142 operating undertakings collectively earned a net profit (before tax) aggregating Rs. 2,360.30 million. They paid income-tax aggregating Rs. 2,504.50 million. Eleven other undertakings were under construction during the year.

The overall performance of public-sector undertakings has shown improvments in 1977-78 in certain aspects. Turnover tax paid and dividend declared have increased and higher value added by producing enterprises. The gross internal resources generation improved from Rs. 7,190 million in 1976-77 to Rs. 7,310 million in 1977-78. This was made up of improvements over 1976-77 in all areas-dividends from Rs. 500 million to Rs. 580 million; interest of Central Government loans from Rs. 2,210 million to Rs. 2,800 million; income tax from Rs. 2,370 million to Rs. 2,500 million and excise duty from Rs. 10,890 million to Rs 12,140 million.

In spite of adverse circumstances like industrial unrest and power shortage, specially in the first half of the year, withdrawal of price preference and, later, purchase preference for public sector undertakings, recesion in the world freight market, these undertakings continued to maintain an overall profit. The overall net profit before tax at Rs. 2,360 million is, however, lower than the figure of Rs. 4,760 million in the previous year.

The total investment (paid-up capital and long-term loans) in the 153 undertakings in 1977-78 amounted to Rs. 128,510 million, as against Rs. 110,970. million in the145 undertakings in 1976-77 and Rs. 89,730 million in the 129 undertakings in 1975-76. These investment figures do not include amounts secured by the undertakings under cash-credit arrangement with banks and deffered credits for raw-materials from foreign suppliers. The annual rate of growth of investment in year 1977-78 over the preceding year worked out to 15.80 percent as against the annual rates of 23.6 percent and 24.8 percent in 1976-77 and 1975-76.

The public sector undertakings continued to expand the employment base for skilled and unskilled persons. The total number of employees in the various groups of undertakings was 1.638 million in 1977-78, as compared to 1.575 million in 1976-77. This is an increase of 4 percent. The average yearly emoluments of their employees increased to Rs. 10,046 in 1977-78, as compared to Rs. 8,936 per head.

Public sector enterprises play fundamental roles of producers of basic raw-materials for industry like coal, steel, sophisticated machinery and basic metals and producers of basic inputs like fertilizers, pesticides and improved seeds for agriculture and basic services like transport, shipping, development of small industries, electrification in rural areas and development of housing.

The number of public sector undertakings has been steadily increasing during the past few years. The following table shows the growth rate :

Major Irrigation Projects Planned

An outlay of Rs. 82,000 million for irrigation programmes has been assessed by a Working Group, to achieve the targets fixed for major and medium irrigation projects for the period 1978-83. This was stated by the Union Minister for Agriculture and Irrigation, Mr. Surjit Singh Barnala, in his address at the fourth conference of State Ministers for Irrigation at Trivandrum, recently.

The Minister urged the State Governments to provide requisite funds in their annual plans and prepare detail physical programmes for each ye for implementation on each maj projects. He said a two-pronge strategy consisting of execution new projects and improvement the operational efficiency and modern sation of existing irrigation systen calls for the achievement of the irr gation targets. He suggested that th programme should be so prepare that the benefits accrue earlier, simu taneously stepping up the tempo c irrigation development. As slippage occur at times, State targets shoul be somewhat higher so as to ensur achievement of the national targets each State contributing its share i the additional agricultural production

The Conference is a merged meetin of the Central Flood Control Board with that of the State Irrigation Ministers. The Union Minister said in order to achieve the target of 17 million hectares during 1978-83 (8 million hectares under major and medium schemes and 9 million hectares under minor schemes), there should be no room for complacency. The foodgrains requirement by the end of

Year	*Number of Central Public-sector undertakings*	*Investment (paid-up capital and longterm loans*
As on 1-4-75	129	Rs. 72,610 million
As on 1-4-76	129	Rs. 89,730 million
As on 1-4-77	145*	Rs. 110,970 million
As on 1-4-78	153*	Rs. 128,510 million

(*including undertaking under construction)

the century is estimated at 230 million tonnes to feed an expected population of 900 million. This calls for doubling the present level of production within the next two decades. This is truly a challenge and many difficulties and bottlenecks will have to be overcome. New projects should be based on identified needs and overall priority including priority for extending irrigation facilities in drought prone, backward and tribal areas. First priority should be to the completion of all on-going projects.

The Minister advised the States to have a shelf of well investigated projects ready in hand and also to draw up Master Plans envisaging optimum exploitation of the water resources of rivers. Each State should set up special investigation units manned by competent engineering staff and provide suitable incentives to the personnel engaged.

Referring to the inter-state utilisation of river waters, the Minister paid tribute to the State Governments for the spirit of accommodation displayed by them in reaching agreements. He expressed the hope that with the availability of Narmada Tribunal Award, the projects to utilise the waters would gather momentum. Agreement on Subernarekha waters and between West Bengal and Bihar on utilisation of the waters of Damodar-Barakar, Ajoy, Mayurakashi, Siddheswari, Noon Beel and Mahananda rivers and the agreements between Andhra Pradesh and Orissa on the utilisation of four river waters have paved way for expeditious implementation of the projects. He stressed the need for an efficient system of monitoring at project and State levels.

The Minister emphasised the importance of quick and efficient utilisation of irrigation waters alongwith creation of new irrigation potential. He called for provision of adequate funds for maintenance and streamlining the procedures, including the introduction and enforcement of the programmes for rotation of supplies (warabandhi). Closer and continuous contact between the irrigation departments, the command area development authorities and the farmers to jointly formulate irrigation programmes for different seasons and providing necessary inputs like seeds, fertilizers, credits etc. in advance was also suggested.

The Minister announced that the Central Government has earmarked 4.5 million tonnes of cement for irrigation and power projects in the current year. States should set up a small cell for continuousloy monitoring, the placing of indents, movement and receipt of cement at the project sites and for liaison with the Central Departments. He wanted expert teams to be appointed to formulate schemes of modernisation of different projects for implementation in the coming decade.

The Minister stressed the urgent need for a systematic conjunctive use of surface and groundwater, both for optimising the use of the scarce resource and for preventing/controlling the increase in water table that could lead to waterlogging and salination. Reiterating the need for a comprehensive and uniform water legislation for the entire country, he urged the State Governments to revise and update their irrigation acts to make legislation uniform all over the country.

The Minister suggested that flood control should be viewed as an integral part of the overall development of water resources in the country and the two suitably coordinated. There is the need to include flood control benefits while planning multipurpose storage reservoirs. Experience has shown that whenever large storage reservoirs have been constructed, there has been marked relief in regard to floods. The DVC reservoir proved quite effective during the last monsoon. The country has, therefore, to construct a number of similar storage reservoir, wherever possible, not only to fully utilise water resources but also to derive significant flood control benefits. The undertaking of adequate soil erosion and afforestation measures in catchment areas have to be ensured. In planning, emphasis has to be placed on preparation of fully investigated Master Plans for phased implementation. These Master Plans should be for each separate basin and importance should be on expeditious completion of on-going schemes. Flood forecasting should be extended to all important rivers and methodology improved to the extent possible. Attention should be paid to minimise flood damage by suitable legislation for regulation and maintenance of flood plains and by strict enforcement of the legislation. Adequate attention has to be paid to organisational matters so as to gear up the machinery to face the challenges and to re-orient personnel policies and training programmes.

Standards for Economy in Rural Electrification

In order to bring about economy and greater efficiency in the execution of rural electrification programme, the Rural Electrification Corporation (REC) has so far issued 15 standard specifications and 92 construction standards. This was stated recently in New Delhi by Dr. B. Venkatappiah,

Chairman of the Corporation, while inaugurating the eighth conference on standardisation, research and training in rural electrification.

Dr. Venkatappiah held that the standards issued by REC had found wide acceptance and almost all the State Electricity Boards had adopted these in execution of the rural electrification programme. These standards had helped to reduce cost, maximise production and maintain better control over inventories.

The Chairman suggested the formulation of a small cell in each Electricity Board to monitor proper implementation of the standards already evolved, besides obtaining feedback from the field regarding any difficulties experienced or improvements needed.

The conference discussed a number of new specifications and construction standards for promoting economy and efficiency in rural electrification. The conference also reviewed the efforts made in the direction of imparting training to engineers and technicians engaged in rural electrification.

Talking about the operation of loan schemes launched by the Corporation, the Chairman informed the conference that it had sanctioned 2519 projects all over the country and the total financial assistance involved was Rs. 950.57 crores. These projects covered electrification of 130,274 new villages and intensification of power distribution in 36,479 villages already electrified. He said that the sanctioned programme also covered the energisation of 1.08 million pumpsets. On completion, these projects would provide electricity to 1.53 million rural industries and nearly 4.3 million domestic, commercial and street light connections. He said that till the end of January 1979 the Corporation had already disbursed Rs. 5,779.80 million. With this financial assistance, 52,674 villages had so far been electrified and 349,000 agricultural pumpsets commissioned.

The Chairman observed that rapid strides had been made in the electrification of rural areas. The percentage of villages electrified rose from 13 percent in 1969 to over 38 percent last year. The number of pumpsets energised also went up from nearly 100,000 to over 3.4 million in 1978.

Dr. Venkatappiah stated that the Corporation which had been always alive to national priorities in rural development had introduced four important categories of loans over the past two and a half years. These were Special Project Agriculture(SPA), Special Project Industries (SPI) and Special Project Drinking Water (SPD). The Corporation had also sanctioned a large number of system improvement projects aimed at improving special transmission and distribution systems in the rural areas and reducing the power losses. These were expected to result in a saving of hundreds of million units of electricity which could be utilised for further production purposes.

Highlighting the importance of imparting suitable training, the Chairman noted that training was another important field in which the Corporation had been making sustained efforts. It had been running a series of training courses. The Corporation also provided financial assistance to State Electricity Boards for setting up centres for training of linemen and assistant linemen. He said that REC had also initiated action for setting up a Central Training Institute for Rural Electrification to provide specialised traini in the formulation, appraisal, imp mentation, monitoring and other pects of projects of rural electrificati The Corporation had also decided take over the training courses Assistant Engineers and Junior En neers and the next course to be co ducted by the REC will commen in the first week of next month.

Science and Technology

Jute Polyster for Low Cost Houses

The latest additions to buildi material for low cost houses are ju polyester composite and fibre glas A joint research and developme project sponsored by United Natio Development Programme (UNDP) an the Department of Science and Tech nology has brought out these tw materials which could go in the makin of a strong moisture and fire proo low-cost house.

The project was taken up to develo composite building materials using such natural fibres as jute to generate know how for the commercial manufacture of these fibres. It was done, keeping in view the physical and mechanical properties of the composites produced after mixing plastic matrix and stiff fibrous materials, called reinforcements. Six Indian institutions are engaged in the task.

One of the three foreign experts who participated in the project has developed working models of low-cost houses, silos and fishing boats with jute polyester composite. He has also erected a winding equipment for fabrication of such models.

Jute is used in the form of woven cloth and yarn. When it is wetted

with polyster resin and cured, the resulting material is right, stiff and strong. The chemical composition gives it fire proof quality. A typical section of the wall or roof of a house or silo will have two skin layers, separated by a corrugated sheet, also made of the jute-polyester resin. The two layers are made using jute yarns and filament winding process. The corrugations are prepared separately using woven cloth and hand laying process.

For winding the two layers, an ex-powered winding machine has been fabricated at the Fibre Reinforced Plastics (FRP) Research Centre. This machine is labour intensive and can be fabricated and installed by any skilled technician at a cost of not more than Rs. 5,000. It does not require any electrical power and can be controlled manually.

The process of winding is simple. First a mould is prepared. This is fixed on to an axis. When the mould is rotated by the ex-powered machine through wheel and shaft mechanism, the jute yarn, wet with polyester resin, is wound round the mould. The resin takes about 30 minutes for curing. Over the first layer the corrugations are set and the winding process is repeated for the second layer. After winding, the job is removed from the collapsible mandrel, edges trimmed, doors and windows, in the case of a jute house, cut open. Including roof the entire house is assembled by the same process.

Since it is light, elaborate foundation is not necessary. A completed house can be erected in an open pit 18 inches deep and earth filled to ground level inside and outside the house. The technique is simple and labour intensive and a step towards the rural oriented technology. It is estimated that a house could be made in a day by the ex-powered winding machine.

The process can be applied in building fishing boats and silos. The full scale fishing boat made of jute polyester composites cost only Rs. 2,000, it can hold one tonne of fish and will last for 15 to 20 years. It has been tested in actual use.

ECIL's Tablet Counting Machine

Yet another product developed by Electronics Corporation of India Limited (ECIL), a Government of India enterprise, is the Tablet Counting Machine, essential for pharmaceutical industries. This machine which helps in counting and batching up tablets automatically comes in two models—TCM 4107 and TCM 4108.

The Tablet Counting Machine is fast, accurate and easy in operation. It is suitable for the counting of tablets ranging from 2mm to 16mm in size. Any number of tablets, from one to a thousand can be set and packed with this system.

The TCM 4107 consists of a polyurethane foam hopper, a vibro feeder, a glass turntable, a sensor and control actuator and an electronic console.

The bulk of the tablets are stored in a hopper and are fed into the turntable at a fixed rate by means of a vibro feed electromagnetic control system. The speed of the turntable is controlled and synchronised with the vibrofeeder. A static spiral arrangement on the turntable aligns the tablets into a row and allows them to flow into the outlet one by one. As the tablets fall off into the container they are counted by an electronic eye. Every time a set number of tablets are counted off, a flapper is actuated diverting the flow of tablets into the second container while the first container is replaced by the operator. The filling is accurate and fast. The Tablet Counting Machine TCM 4107 just described is a single channel equipment. The TCM 4108 is a double channel tablet counting machine. The basic principle of operation of TCM 4108 is similar to that of TCM 4107, the only difference is that its turntable is larger in size and it has two outlets for the tablets.

The fully solid state electronic console provided with the tablet counting machine, also known as a programmable counter, uses the latest IC technology. The counter has the following provisions :

(i) An arrangement to set any number between 1 and 1000 for counting of tablets.

(ii) A re-set arrangement to terminate the counting and start again automatically.

(iii) The test/normal mode has an arrangement for self check facility in the 'test' mode to assure the proper functioning of the counter itself.

(iv) A digital LED display directly indicates counting of the tablets.

Among the advantages are :—(i) counting is precise and rapid thus saving on manual errors of overfilling and time ; (ii) contamination is eliminated ; tablets are transported from the hopper to the packing containers in the most scientific way without any rubbing or splitting ; (iii) labour costs are cut-one operator can look after as many as four machines without

any physical strain ; and (iv) organisational convenience—a non-destructive readout on an electro-magnetic register indicates the total number of batches packed at any given time. Hence, it is easy to supervise the production schedule.

Monex—79

Monex is a multinational experiment on the Asiatic Monsoons. It will be conducted in 1979 with the scientific objective of understanding better the seasonal response of atmosphere to the Europe-Asia land mass. Monex will also elucidate the factors that control the vagaries of the monsoon during its Swayas well as from one region to another.

Monex will be a part of the First Global GARP Experiment (FGGE). GARP stands for Global Atmospheric Research Programme evolved jointly by the world Meteorological Organisation and the International Council of Scientific Union.

India has had experience of similar experiments in the past. The first was the international Indian oceans expedition (IIOE) conducted during the period 1963-1965. During the summer monsoon of 1973 and Indo-Soviet monsoon experiment (ISMEX) was conducted which confirmed some of the findings of the IIOE and also raised a few questions. During these expeditions data collection was confined to equatorial regions in the Indian ocean and the Arabian sea. A multinational experiment—Monsoon 1977 was conducted which was the first to go in for intensive exploration in the atmospheric conditions over the Bay of Bengal. It was conducted for a period of 80 days from May 26 to August 15, 1977. Five research ships from the Soviet Union and two from the Indian Government recorded meteorological and oceanographic observation in the equatorial Indian ocean, the Arabian sea and the Bay of Bengal. The results analysis of data collected are expected to contribute to the planning of Monex 1979.

The observational programme of FGGE/MONEX will be carried out during the full year 1979. There will be two special periods of observations, when they will be carried out more intensively. They are the periods January-February and May-June. Some of the problems which will be studied with the data collected during the FGGE/MONEX will be : Air-sea interactions over the Arabian Sea ; Cyclogenesis over the Bay of Bengal ; Onset of the monsoons ; Active and Break monsoon ; Orographic effects of the Himalayas and the Arakan Yomas ; the main heat sources which generate and maintain the monsoons; Inter-hemispheric interactions ; Interaction with the circulations over the Pacific ocean ; Interaction with the circulations in the stratosphere and the mesosphere ; Interaction with the middle latitude waves.

The Space Applications Centre (SAC) is readying an earth station at Ahmedabad for the receipt of real time data on cloud cover, ocean surface temperatures, and on the vertical profiles of temperature, collected and transmitted by National Oceanographic and Atmospheric Administration NOAA (USA) weather satellites. This earth-station will be adapted for receiving similar data from a geostationary satellite, when USSR orbits one over the Indian Ocean (about 65°E) by the end of this year. During MONEX, India would like to have data collected from a few buoys in the Indian seas, and a few stations over the hi Himalayas.

Besides these, there are plans of spec rocket launchings from Thumba, S harikota and a third station for obt ning winds and temperatures up an altitude of about 50 km. Sin data over Thumba have shown son notworthy relations between the str tospheric-mesospheric winds and th vagaries of the monsoon over th South of India, it is likely that simil relations may be found for the monsoo over the central parts of India.

The Government of India is expecte to incur an expenditure of near Rs. 200 million for the whol of MONEX. Of this, the space seg ment of MONEX is likely to incu something between Rs. 50 and 6 million.

The data collected during the FGGE MONEX has to be digested for a better understanding of the atmosp heric processes involved in the monsoo and in the global weather systems. It is expected that competent scientist belonging to several institutions in India would be involved in the investigational work. The Physical Research Laboratory, Ahmedabad and the Space Application Centre, Ahmedabad have taken steps to create appropriate cells for this purpose. There are problems of a global nature as well as of a regional nature which have to be tackled.

It is hoped that such studies will provide some understanding of the circumstances which lead to the formation of monsoon cloud clusters (ten to fifteen times larger than those else where in the world) Insights into the physics of the monsoons are expected from the studies of the data. Such insights are bound to improve

India's ability in forecasting the vagaries of the monsson rainfall which largely control Indian economy and social life.

Indian Joint Ventures Abroad

If one looks at the economy of India, one finds that an industrial revolution has been brought about in this country.

The achievements in terms of number of new industrial establishments set up and the physical increase in industrial output are indeed commendable. The more important and enduring are the psychological changes brought about during the last decade. These healthy changes in the attitude towards industrialisation are visible in the readiness to venture and risk capital in establishing industries, in innovating and experimenting in new fields of production and in willingness to adopt scientific and technical methods to improve quality and output. Considerable advances have been made in the acquisition of specialised knowledge and skills and a new class of industrial entrepreneurs and managerial personnel have not only come into existence but is also being rapidly expanded.

Indian industry has reached a stage where it can supply bulk of plans for production of various products such as textiles, sugar, cement, dairy products, many chemical and pharmaceutical items, dyes, electric motors, switch gears, etc. The fields of manufacture where India can render technical assistance have also widened. Several export houses possess the expertise to undertake turn-key jobs. In recent years there has been a notable growth in consultancy services and management expertise. Against this background it is but natural that Indian joint ventures abroad should serve as an in-built means of promoting exports of capital goods and services.

Of late industrial houses are coming up in greater numbers with proposals to collaborate in joint ventures abroad. Government on its part has been encouraging the initiative of private parties in this regard. As far as the policy being pursued by the government of India in this respect is concerned, Indian participation is contributed by way of export of indigenous machinery, equipment, tools, technical know-how, etc. The policy has been liberalised and the new policy permits Indian firms to invest in the existing marketing and distribution organisation abroad. Although normally the policy of the government is not to allow cash remittance for meeting industrial contribution in India in joint ventures abroad, in the case of trading, marketing and consultancy ventures, which are in the nature of industrial projects, industrial contribution by way of cash remittances will be allowed depending upon the merits of the case.

The revised guidelines for joint ventures abroad are as follows :

(a) Participation by Indian parties will have to be in accordance with the rules and regulations of the country where the project is to be located instead of only minority participation stipulated earlier ;

(b) Normally cash remittances will not be allowed for meeting equity contribution but the hard and deserving cases will be considered on merit ;

(c) Apart from Indian participation in the form of plant and machinery and in certain cases by capitalisation of technical know-how fees royalities, etc., the revised guidelines also provide for raising of foreign exchange loans abroad and also grant of loans by Indian participant companies ;

(d) Proposals for the setting up of joint ventures abroad also in the field of trading, marketing and consultancy services will be considered.

The present position in respect of government approvals for setting up joint ventures abroad is as shown in Table A.

Table A

Total approvals given	337
No. of abandoned-not implemented	143
Balance already in production	90
Under implementation	104

The statement in Table B gives the region-wise analysis of Indian joint ventures which are in production.

Table B

Region	*No. of units*	*Actual equity (Indian Rs. Million)*
South-East Asia	47	151.82
South Asia	5	2.39
West Asia	8	3.00
Africa	19	58.75
Europe & America	11	6.83
TOTAL	90	222.79

There has been a marked preference for Indian entrepreneurs to invest in the neighbouring countries of South East Asia especially in ASEAN countries.

Among the joint ventures that have become operative, the largest number are in the field of light engineering followed by textiles, the traditional fields in which Indian entrepreneurs have acquired certain degree of capability. In terms of investment in share capital textiles held the predominant position with 31.4 percent of the total Indian equity followed by paper and light engineering.

Of the 90 joint venture units already in production, the total Indian investment is of the order of Rs. 223 million.

The Indian participation by way of equity in the joint ventures abroad has taken the pattern as shown in Table C.

(Rs. Million)

Plant and machinery export from India	176.3
Cash remittance	3.0
Capitalisation of technical know-how etc.	24.7
Bonus shares	24.8
Others means	6.0

Earnings repatriations made to India :

By way of dividends	20.0
Other remittances such as technical know-how fees, etc.	40.0
Additional exports generated of plant and machinery spares, components and raw materials	420.0

The new policy has been finalised on the recommendations of the inter-ministerial committee on joint ventures abroad. Till the end of July 1978 more than 300 proposals for joint ventures were approved. After the formation of the inter-ministerial committee in April 1978 the process of finalisation of the proposals has been expedited. Out of the approved projects, about 100 joint ventures are in operation and another 100 are currently under various stages of implementation. The countries in which such joint ventures are launched include both the developed and the developing countries in the South East Asia, South Asia, West Asia, Africa as well as Europe and America. Some of these countries are: Afghanistan, Bahrain, Canada, Fiji, France, Hong Kong, Hungary, Indonesia, Iran, Kenya, Kuwait, Libya, Malaysia, Mauritius, Nepal, Nigeria, Oman, Philippines, Saudi Arabia, Seychelles, Singapore, Spain, Sri Lanka, Thailand, Uganda, UAE, UK including N. Ireland, USA, West Germany, Yugoslavia, Zambia, Australia, Colombia, Cyprus, Ethiopia, Ghana, Canada, Iraq, Ireland, Japan, Lebanon, Moroco, Qatar, Senegal, Tanzania, Togo, Trinidad and Yemen Arab Republic.

Indian joint ventures in other countries encompass a wide spectrum of industries and enterprises. These include light engineering (excluding auto-anciallaries), auto-anciallaries including assembly of commercial vehicles, textile and allied products, chemicals and pharmaceuticals, plastic products, oil seeds crushing, refining and fractionation, construction, hotels and restaurants, pulp and paper, sugar, leather and rubber products, trading and marketing, transportation, iron and steel products, non-ferrous metals products, glass and glassware, food and food processing and exploration of minerals.

Besides the usual advantage of providing ready market for capital goods, recurring export of raw materials, semi-processed manufactures, spare parts, components, etc., continuous earning of foreign exchange in th form of dividend and royality, join ventures are an important and powerfu instrument for the expansion of trad on a mutually advantageous basi Such joint ventures are of considerabl significance not only in furtherin the growth of trade among developin countries but also in furthering increa sing economic co-operation.

As establishment of joint venture not only helps the host country bu the investing country as well, goverr ment, both of recipient and technica know-how exporting countries shoul take all necessary steps within thei competence to remove obstacles payin special attention to their fiscal an exchange control policies and to thei legislation effecting the ownership an management of companies. Stabilit in these matters is important an would do much to create a favourabl climate for joint ventures.

An experiment under which two count ries—one exporting plant an machinery and the second supplyin up-to-date technical know-how is bein explored effectively for joint venture in third countries. In this contex Indian plant and machinery wit Australian technical know-how in a engineering joint venture in Indonesi or Malaysia or Thailand could b thought of.

Fortunately, India is in a position t build up a variety of infrastructura facilities, right from the stage o planning and designing to installatio and commissioning of plants. Sh can share her resources, technica know-how, consultancy services, machi nery and equipment and offer extende terms for deferred payment in respec of capital goods exported. Furthe collaboration between India and Sout East Asian countries could go a lon way in furthering one anothers pro duction programmes and projects.

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economic and commercial news

News Highlights

India Hosting IITF '79

The first India International Trade Fair (IITF '79) will be held at New Delhi from November 10 to December 9, 1979. The fair will offer extensive opportunities to firms and organisations in India to market a variety of manufactured goods as also find outlets for the technical know-how and consultancy services.

Closer Indo-Soviet Ties

The Prime Minister of India, Mr. Morarji Desai and the Chairman of the Council of Ministers of the Soviet Union, Mr. A.N. Kosygin signed a Long-Term Programme of Economic, Trade, Scientific and Technical Cooperation for 10-15 years as envisaged in the Joint Indo-Soviet Declaration of October 26, 1977. In accordance with the Long-Term Programme, cooperation will be further expanded in the fields of ferrous and non-ferrous metallurgy, machine building, oil and coal industries and agriculture. (Facing Col.)

Indo-Polish Joint Commission Meets

Areas of further cooperation between India and Poland were explored at a

(*Contd. on page* 2)

Export Performance and Potential

Furthering Economic Cooperation Between India and USSR

The Prime Minister of India, Mr. Morarji Desai and the Chairman of the Council of Ministers of the Soviet Union, Mr. A.N. Kosygin, signed recently in New Delhi, a Long-Term Programme of Economic, Trade, Scientific and Technical Cooperation for 10-15 years as envisaged in the Joint Indo-Soviet Declaration of October 26, 1977. In accordance with the Long-Term Programme, cooperation will be further expanded in the fields of ferrous and non-ferrous metallurgy, machine building, oil and coal industries and agriculture. The two sides will in particular cooperate in further expansion of the steel plants in Bhilai and Bokaro, in the design and construction of new steel plant in Visakhapatnam, the agreement which will be signed in the near future, in the setting up, on a compensation basis, of an alumina plant in Andhra Pradesh and other important projects, modernisation of existing technology and introducing new ones in the projects constructed in the framework of Indo-Soviet cooperation.

The two sides also indentified new areas of cooperation in the food, pulp and paper and light industries, in the manufacture of building materials, irrigation and in other fields. New forms of cooperation will be developed including production cooperation and specialisation, joint participation in designing and constructing industrial projects in third countries, and cooperation in the sphere of planning. The programme provides that India and the USSR will promote the further growth of mutual trade through diversification of the product-mix and seeking new forms of trade with due regard to the possibilities and needs of the economies of both

recent meeting of the Indo-Polish Joint Commission for Economic, Scientific and Technical Cooperation in New Delhi. The two sides reviewed the existing cooperation between the two countries and identified areas for further tie-ups. The areas of discussion included cooperation in the fields of coal mining industry, power generation, shipping, fisheries, agriculture, science and technology, electronics, industrial cooperation and trade.

High Speed Coaches Designed

The Integral Coach Factory has manufactured two prototype bogies capable of running coaches at a maximum speed of 160 kmph. Necessary oscillation trials will be conducted by the Research, Design and Standards Organisation of the Railways for evaluation of the bogie design. Railways have been introducing, for quite some time past, trains having maximum permissible speed of 110 kmph, on the broad gauge.

Export Performance and Potential

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countries. The Programme also envisages expansion of cooperation in the fields of technology, applied and fundamental sciences.

During the visit the following documents were also signed :

(1) Agreement on cooperation in the field of Medical Science and Public Health.

(2) Cultural Exchange Programme for the years 1979 and 1980.

(3) Protocol on supply of agricultural machines and motor vehicles as a gift for the State Farm in Suratgarh.

(4) Agreement on additional reciprocal deliveries of some commodities in 1979.

Special note was taken of the great significance in the development of Indo-Soviet cooperation in the field of Peaceful Uses of Atomic Energy with the signing of an agreement on January 22, 1979 between the competent authorities of the two countries.

Both sides expressed confidence that the implementation of the Long Term Programme and other agreements signed will raise the mutually beneficial and equitable cooperation between India and the USSR to a still higher level and give it a more dynamic character.

Both sides considered it necessary to work for restructuring international economic relations on a democratic basis which would facilitate a more rapid development of developing countries, the progress of entire mankind and the establishment of a new international economic order based on respect for national sovereignity, on the principles of equality and mutual benefit. They expressed the hope that the forthcoming Fifth Session of UNCTAD would contribute to this goal.

Indonesia Lauds India's Economic Progress

Indonesia has lauded the industrial and technological progress achieved by India. The Indonesian press has described India as occupying at the moment the most outstanding position in the industrial field among developing nations. Indian products can compete with the best of the Western world is a theme that recurs in the comments which have appeared in the Indonesian press following the visit of Mr. Biju Patnaik, Union Minister for Steel and Mines, who returned from Indonesia recently and the Indian Engineering Exhibition (INDEE'79) held recently at Jakarta.

The English Daily, "Indonesian Observer" says "that not many outside India know that India is only behind the United States and the Soviet Union in the number of scientists and technicians. Its scientific and industrial products can compete with the best of the Western world. Its institutes of higher learning and research equal that of the most advanced nations".

Possibilities of greater economic and technical cooperation with India have been welcomed, with many newspapers commenting on the "trend so far in the developing countries to rely excessively on the West for help in their development efforts, forgetting that cooperation with fellow-members of the Third World can be as fruitful, if not more advantageous." The editorials also said that Mr. Patnaik's visit revived memories of political cooperation between the two countries more than three decades ago, when he had been sent to rescue the Indonesian leaders for consultations in New Delhi on the strategy to fight the Dutch Colonialists.

On the significance of the INDEE'79, the daily "Angkatar Bersenjata"

said that India's industrial progress was manifest from the machines, equipment and goods exhibited at the fair. The largest circulation daily of Indonesia, "Kompas" observed that "upto now Indonesia has always looked to the North when it came to importing technology, raw materials or consumer goods. The Minister's visit reminds us that there is still another source for such requirements".

In a dig at the prevailing obsession with foreign brands, "Kompas" of Indonesia says : "It is known all over the world that medical instruments are made by West European and American factories. But not many people know that a great number of these instruments under the brand name or trade-mark, 'Made in Germany' and, 'Made in USA' are in fact orginally made in India. Do not be surprised when you hear that India has made thousands of kinds of medical instruments which are not inferior to those made by West Germany, Switzerland or USA. The training of skilled and technical experts (in India) really impresses us.

As regards the use of foreign technical experts, we should prefer to choose Indians. Indonesia must learn from India how to be self-reliant in various sectors".

Indo-Yugoslav Trade Talks

India and Yugoslavia recently discussed measures to expand bilateral trade, strengthen industrial and economic cooperation and implement tripartite agreement. They also reviewed the Arusha Document and discussed measures preparatory to UNCTAD V scheduled to be held in Manila in May, 1979.

The Indian delegation was headed by the Union Commerce Minister, Mr. Mohan Dharia and included, among others, Mr. K. K. Goyal, Minister of State for Civil Supplies and Cooperation and Mr. Krishnaswamy Rao Sahib, Commerce Secretary. The Yugoslav team was led by Mr. Metod Rotar, Minister for Foreign Trade.

Mr. Dharia lauded Yugoslavia's close friendship with India and her cooperation in international forums. He, however, said that this close friendship was not adequately reflected in trade and economic relations. India's share in Yugoslavia's total trade and Yugoslavia's share in India's total trade was still negligible. The two leaders agreed that there was considerable scope for improvement in these relations and said that the first priority should be to enlarge the base of exports from both sides.

The Commerce Minister pointed out that Indian economy was now in a fairly sound position. Last year's performance, he added, had been most encouraging. There had been increase in food production. Industrial production had gone up and the foreign exchange position was satisfactory despite the increased trade deficit. Inflation had been curtailed which had created a climate for following liberal economic policy. He said that imports had been liberalised. Existing controls were being examined and relaxations had been affected already in several areas. He stressed the need for enlarging tripartite cooperation and said that the two sides should add more items and exchange tariff concessions.

The Commerce Minister indicated that India would be interested in importing fertilizers, non-ferrous metals, newsprint, drugs, pharmaceuticals, steel and electronic items etc.

Mr. Rotar also underlined the need to increase mutual trade, make it balanced as much as possible and also to explore avenues of further expansion. He said we must devote our efforts to broaden instruments of economic cooperation. He would particularly like to have greater cooperation in the field of industry, he emphasised. Referring to tripartite cooperation, the Yugoslav Minister said that steps should be taken to pinpoint the initiatives each country had to take. He spoke at length about the economic scene in his country and said that both India and Yugoslavia were in the process of intense development leading to far-reaching structural changes. There was, thus, need for extensive and intensive cooperation between India and Yugoslavia. He stressed the need for filling up the information gap in this respect. There should be exchange of information on systematic basis on the market possibilities in the two countries.

Mr. Dharia had suggested that the Joint Ministerial Committee, which had not met since May, 1977, might meet by the middle of June, a proposal accepted by the Yugoslav team.

Upswing in Garment Exports

The export of readymade garments in January, 1979 was over Rs. 600 million for quota countries. This was three times higher than the value of exports in January, 1978. The achievement was due to the decisions taken towards the end of last year to ensure the maximum utilization of textile quotas, long-term development of exports and reasonable unit value realisation.

Earlier, the Government of India issued comprehensive policy guidlines to the Apparel Export Promotion Council.

The quota distribution policy was announced sufficiently well in advance to enable the contracting parties to plan for future. With a view to providing stability to the planning process of the readymade garments trade, the policy for 1979 was continued for 1980 as well.

The Apparel Export Promotion Council was entrusted with the task of operating quotas and allocating them for readymade garments made of synthetic, woollen and cotton. The principle of first-come first-served was adopted for purpose of quota allocation and special encouragement was given to higher unit value items and handlooms. Last year, handlooms were given an allocation to the extent of 50-50 vis-a-vis mill-made categories. This year, in case of USA, the ratio has been fixed 2 : 1.

The penalty provision was tightened and special allocations and earmarkings of the quota were made for woollen and man-made items. In view of the tremendous demand for women blouses in USA and a large number of applications received for reservation against contract, selection was made on the basis of the unit price and 198 applicants out of 429 were given the allocation.

IRCC Bags Another Iraqi Contract

Indian Road Construction Corporation (IRCC), a public sector undertaking, has secured another contract worth Rs. 150 million for the construction of 429 culverts for a railway line in Iraq. The work is to be completed in 18 months.

The Corporation is already constructing a 4-lane 327 metres long bridge, with 15 kilometres approach roads in Iraq. The contract, valued at Rs. 100 million, was secured last year against stiff international competition. The Corporation is also constructing roads in Libya. The contract is worth Rs. 130 million. Both the projects are at various stages of construction and are scheduled to be completed during the next financial year.

The Corporation undertakes works in India and abroad for roads, bridges, airfield pavements and allied civil engineering works. Set up in December 1976, with an authorised capital of Rs. 100 million, it has now a paid-up capital of over Rs. 10 million.

Indo-Swedish Research Project

India and Sweden will have collaborative research programme on rapeseed and mustard crop improvement and oil and protein utilisation. Three areas of research have been identified which include agricultural production and technology, process and product development and nutrition and toxicology. This was agreed upon recently in New Delhi, when Swedish delegation led by Dr. J. O. Lundberg had detailed discussions with the Indian delegation led by Dr. R. D. Deshpande of the Department of Science and Technology.

The Swedish and Indian scientists working on rapeseed and mustard will attend the annual workshop on oilseeds in August this year and work out a detailed plan of action. This would be a starting point of exchange of scientists and of material.

The possibility of oil extraction and using cake as animal feed would be examined in greater detail. The product development aspects, exchange of material for processing and studies of protein concentrate would be initiated jointly in August.

The Indian side mentioned that priority should be given to nutritional and toxicology study for animal feed rather than for immediate human consumption.

From the Swedish side the entire work will be co-ordinated by the Project Coordination Board of the Department of Plant and Husbandry, Swedish University of Agricultural Sciences. In India the Department of Science and Technology will be the nodal agency for coordination with Sweden.

Export of Electronics Goods

India's Electronics products are being exported to about 50 countries including the USA. The value of electronic exports during 1978-79 is estimated to be about Rs. 400 million. Studies have been made by the Electronics Commission to explore the export potential of electronics products in international markets. The Electronics Trade and Technology Development Corporation, a public sector company of the Department of Electronics, has been assisting a number of units in exporting their products. Bharat Electronics limited have won large export orders for professional electronics equipment such as communication and radar equipment. Instrumentations Limited on the other hand have won several export orders for process control instrumentation and computer based data acquisition systems in Malaysia.

Electronics production in India has grown at an average annual rate of over 20 percent during last few years and the value of production in 1978 is estimated at Rs. 6000 million. Figures for the previous years are

Rs. 3645 million (1975); Rs. 4100 million (1976) ; and Rs. 5080 million (1977).

Under a comprehensive plan for the development of industry, the production is likely to increase to a level of about Rs. 12,000 million by 1982-83, the end of the Sixth Plan period.

International Agreement on Jute

The jute producing countries have unanimously decided to press for an early finalization of an international agreement on jute and jute products covering various aspects. The decision was taken at a meeting of principal jute producing countries held in Kathmandu recently. The meeting was convened by UNCTAD and was attended by India, Bangladesh, Nepal, Thailand and Burma. The international organisations represented were UNCTAD, FAO and ESCAP.

The meeting also decided to urge the developed consuming countries to agree to an organizational framework and also to commit substantial funds on firm and continuing basis so that the agreed programmes could be undertaken without any loss of time.

The main purpose of the meeting was to assess the present situation regarding UNCTAD talks on ways and means of improving the international trading in jute and jute products. Jute is one of the 18 products identified by the Nairobi Session of UNCTAD for special treatment in this regard.

At Kathmandu, the principal producing countries also held discussions among themselves on questions of mutual interest. It was felt that informal and formal consultations among them should continue. ESCAP is likely to organise such consultations in the capitals of the principal jute producing countries.

India-Malaysia Air Talks

The arrangements relating to air services between India and Malaysia were reviewed by the aeronautical authorities of the two countries at the talks held recently in New Delhi.

Due to growth of air traffic between the two countries, it was agreed, that both Air India and Malaysian Airline System will now be entitled to increase the frequency of air services from two to three services per week between India and Malaysia with immediate effect. The revised arrangements also provide for use of widebodied aircraft.

Mr. Yoong Yee Loke, Deputy Director General of Civil Aviation led the Malaysian delegation while the Indian delegation was headed by Air Marshal Jaffer Zaheer, Director General of the Civil Aviation.

It was expected that the new arrangements will further promote closer contact between the two friendly countries.

Industrial Growth and Diversification

New Processing Lines At Salem Steel Plant

Two processing lines are being set up at the Cold Rolling Mill Complex of the Salem Steel Project in Tamil Nadu, at a cost of over Rs. 250 million, for low-cost, high quality processing of stainless steel strips. The lines are scheduled to be commissioned by 1981 end.

Work on the lines, which was inaugurated recently by Mr. Mantosh Sondhi, Secretary, Union Ministry of Steel and Mines, marks the setting up of what constitutes the largest single processing unit of the Salem Steel Plant. The lines supplied by DMS of France and Ruthner of Austria will have electricals from the public sector Bharat Heavy Electricals Limited (BHEL) and will use the latest sophisticated instrumentation and controls with a maximum speed of 60 metres per minute. This includes the latest Ruthner (Neutral Electrolytic Pickling) process which will ensure reduced cost of operation, more consistent quality, low environmental pollution and better safety as compared to the traditional acid process.

Work is progressing fast on the Rs. 1,270 million Salem Steel Plant which will manufacture 32,000 tonnes of cold rolled stainless steel sheets and strips per year on completion of the first stage by 1981-82. The latest pickling and annealing lines will process hot and cold rolled stainless steel strips at the intermediate and final stage. Part of the plant and machinery for the project is being supplied by the BHEL, Metallurgical and Engineering Consultants (India) Limited (MECON) and the Heavy Engineering Corporation (HEC). The civil and structurals work for the Cold Rolling Mill complex, now in progress, are being executed by the Hindustan Steelwork Construction Limited (HSCL), the public sector construction agency for steel plants. Water supply system is under construction by the Tamil Nadu Water Supply and Drainage Board to cater to the requirements of the first stage of the Plant. Work is in progress on the intake well,

India's Exports by Major Commodity Groups

(Rs. million)

Items	1976-77	1977-78*	*Percentage change in* 1977-78 *over* 1976-77	*April-September*		*Percentage change in* 1978-79 *over* 1977-78 *(April-Sept.)*
				1977-78	1978-79†	
1	2	3	4	5	6	7
1. Oil cakes	2344.0	1333.0	(—)431.0	952.0	237.0	(—)751.0
2. Tobacco	1024.0	1172.0	145.0	889.0	407.0	(—)542.0
3. Fish and fish preparations	1806.0	1743.0	(—) 35.0	901.0	935.0	38.0
4. Tea	2931.0	5553.0	895.0	2868.0	1469.0	(—)488.0
5. Coffee	1260.0	1911.0	517.0	1255.0	770.0	(—)386.0
6. Sugar	1481.0	173.0	(—)883.0	124.0	221.0	782.0
7. Cashew kernels	1061.0	1495.0	409.0	1062.0	397.0	(—)626.0
8. Spices	750.0	1370.0	827.0	488.0	371.0	(—)240.0
9. Iron ore	2385.0	2408.0	10.0	1047.0	875.0	(—)164.0
10. Raw cotton	270.0	07.0	(—)974.0	03.0	08.0	1667.0
11. Cotton fabrics	2673.0	2221.0	(—)169.0	1348.0	958.0	(—)289.0
12. Cotton apparel	2631.0	2351.0	(—)106.0	1577.0	1485.0	(—) 58.0
13. Jute manufactures	2011.0	2449.0	218.0	1146.0	899.0	(—)216.0
14. Coir yarn and manufactures	240.0	239.0	(—) 04.0	119.0	119.0	—
15. Leather and leather manufactures (excluding footwear)	2642.0	2480.0	(—) 61.0	1246.0	1326.0	64.0
16. Engineering goods	5663.0	6166.0	89.0	2466.0	2920.0	184.0
17. Handicrafts	4557.0	7500.0	646.0	2997.0	2756.0	(—) 80.0
18. Chemicals and allied products	1108.0	1167.0	53.0	589.0	786.0	334.0
19. Iron and steel	2905.0	1863.0	(—)359.0	1454.0	1177.0	(—)190.0
20. Silver	1708.0	786.0	(—)540.0	240.0	330.0	375.0
21. Others	9977.0	9349.0	(—) 63.0	4365.0	6529.0	496.0
TOTAL	51427.0	53736.0	45.0	27136.0	24974.0	(—) 80.0

*Provisional.

†Quick estimates.

Source : Director General of Commercial Intelligence and Statistics, Calcutta.

the sendimentation tank and pipelaying along the route.

More Industrial Licences Issued

The Union Ministry of Industry issued sixteen licences and twenty four Letters of Intent during January 1979.

The items for the manufacture of which the licences were issued include commercial vehicle rear axle casings, hydraulic equipment, load-haul dumps, oxygen gas, streptomycin, worsted yarn, cheese, ghee by-product, butter by-product, shoe uppers, asbestos cement roofing sheets and plain sheets.

The items for which letters of intent were issued include cast iron alloy castings, jelly filled cables, ceramic capacitors, vacuum contractors, industrial heating equipment, fly-wheel ring gears, hydraulic cylinders, foot and mouth diesease vaccine, malted milk products and other milk derivatives, portland and pozzolana cement.

Higher Production of Railway Wagons

Wagon production in the country has shown a marginal increase during the last two years. During 1976-77, the wagon producing units in the public and private sectors manufactured 10,676 wagons, in terms of four-wheelers and another 1,305 wagons were produced in the Railway workshops bringing the total to 11,981. The production in 1977-78 was 12,167, the industry producing 10,843 wagons and Railway workshops 1,324 wagons. For 1978-79 the anticipated production of wagons as per the revised estimate is 12,375. Of which, 15,00 are expected to be manufactured in the Railway workshops.

Some of the workshops of the Indian Railways are being modernised with financial assistance from the International Development Association of the World Bank which will make available Rs. 815 million on credit out of the total project cost of Rs. 1,100 million. This credit will be utilised for purchase of machinery and plant, both indigenous as well as imported. The principal has to be paid back in six monthly instalments over a period of 40 years from 1989 to 2028. The credit is interest-free, but for a service charge of 3/4 percent per annum.

A ten-year plan for modernization of Railway Production Units, Workshops and Repair Depots has been prepared with a view to improving the performance and availability of rolling stock and reducing the cost of its maintenance.

Brief details of the proposed improvements are as under :

(i) Provision of modern machinery and plant to replace old and antiquated machinery ;

(ii) Better material handling equipment ;

(iii) Unit exchange assemblies for minimising maintenance down-time ;

(iv) Metrological and testing equipments for better quality-control ; and

(v) Improved layout and rationalisation of workload.

The entire plan would require an estimated investment of Rs. 4,000 million, and has been split into three phases. The first three-year phase of this plan has been given a final shape. This phase will require a total investment of Rs. 1,100 million.

A proposal to set up three captive power stations of 110 M.W. capacity each at Salanpur in West Bengal, Sonenagar in Bihar and Murad Nagar in U.P., is being processed in consultation with various Ministries and Planning Commission.

Conversion of Barabanki Samastipur line to broad gauge, which is estimated to cost Rs. 796 million, is progressing so as to be completed in 1980. So far about Rs. 520 million have been spent on the project. Rs. 140 million have been provided for this project to be spent during the year 1979-80.

Conversion of Bangalore-Mysore metre gauge line to broad gauge has been included in the budget for 1979-80, at an anticipated cost of Rs. 140 million.

The new broad gauge railway line between Rohtak-Bhiwani in Haryana will be completed in 1980. Formation and bridges on the project are almost complete. Linking of track is in progress. The sanctioned estimated cost of the project is Rs. 60.8 million of which Rs. 44.3 million is to be spent on it upto March 1979.

The broad gauge line, being extended from Trivandrum to Kanyakumari, will be opened to traffic in April this year.

Construction of Alleppy-Ernakulam new broad gauge Railway line has been included in the budget with a proposed outlay of Rs. 10 million in the financial year 1979-80.

The new lines which will be taken up for construction during the current financial year in the hill states of north-eastern region include ; Gauhari Burnihat in Meghalya, Balipara to Bhalukpong in Arunachal Pradesh,

Dharamnagar to Kumarghat in Tripura, Silchar to Jiribam in Manipur, Amguri to Tuli in Nagaland and Lalaghat to Bairabi in Mizoram.

Final location (engineering) survey for Jammu-Udhampur broad gauge rail link is in progress. Decision regarding its construction would depend upon the results of the survey and its clerance by the Planning Commission.

A survey has recently been ordered for re-assessment of the traffic prospects and updating the cost of the conversion to broad gauge of Tuticorin-Dindigul metre gauge line along with Karur-Dindigul new broad gauge link. Decision regarding construction of the line will be taken after completion of the survey and evaulation of its results.

An engineering-cum-traffic survey for augmentation of sectional capacity including doubling on Kiul-Barharwa section of Sahibganj loop is in progress. The survey sanctioned in 1977 is likely to be completed by March 1979.

Sports Goods Research Centre

A Product and Process Development Centre for sports goods industry is proposed to be set up, during the current Plan period, for carrying out research and developmental work for production and export of quality sports goods. The Development Commissioner, Small Scale Industries is preparing a detailed feasibility report for this Centre.

The Centre will train master craftsmen and supervisors drawn from different parts of the country ; carry out research and experiment to identify indigenous substitutes of some of the items of raw materials that are in short supply in the country ; develop prototypes of modern machinery and equipment to replace obsolete ones now being used by the industry ; product development and rsearch on modern methods of manufacture ; and render technical guidance to sports goods industry.

This information was given by Mr. Jagdambi Prasad Yadav Union Minister of State for Industry, in the Rajya Sabha recently.

Record Jute Production

The production of jute during current year 1978-79 has been estimated at 6.454 million bales of 180 kg. each which is the highest production achieved so far in the country. According to the All India final estimate of jute for 1978-79 issued by the Directorate of Economics and Statistics, Union Ministry of Agriculture and Irrigation, the combined production of jute and mesta during 1978-79 is expected to be around 8.1 million bales which is the highest since 1962-63.

The production of 6.454 million bales exceeds the previous year's production by 1.092 million bales or 20.4 percent. The highest production achieved in any previous year was 6.32 million bales in 1967-68. Current year's crop exceeds that level by 134,000 bales.

Of the additional production of 1.092 million bales over the previous year, West Bengal alone accounts for 659,000 bales and Assam 354,000 bales.

The total area under jute in 1978-79 as per final estimate is estimated at 888,000 hectares as against 797,000 hectare last year. Of this, 538,000 hectare is in West Bengal ; 49,330 hectares in Orissa ; 11,300 hectares in Uttar Pradesh ; 6100 hectares in Meghalaya; 3600 hectares in Tripura; 114,000 hectares in Nagaland ; 165,000 hectares in Bihar and 114,000 hectares in Assam.

The final production figures have been placed at 6.453 million bales of 180 kg each. Of these, West Bengal accounts for 4.123 million bales ; 899,000 bales Assam ; 831,000 bales Bihar ; 439,000 bales Orissa ; 96,000 bales Uttar Pradesh ; 41,700 bales Meghalaya ; 21,600 bales Tripura and 500 bales Nagaland.

Additional Power Capacity Planned

The Energy Minister, Mr. P. Ramachandran told the Lok Sabha recently that the power programme for the year 1978-79 had provisionally envisaged an addition of 3,857 MW of new generating capacity. Until January, 1979 new capacity of 1,717 MW had been added. It was expected that the total capacity added during the current year would be about 3,000 MW. The Minister said that there were several factors affecting the commissioning of new capacity within the targetted time.

The Energy Minister also told the House that a super thermal power station would be set up at Farakka.

The Minister said that the first phase of the project would consist of three generation units of 200 MW each and associated transmission lines for evacuation of power. The power project including the transmission system was estimated to cost Rs. 3,208 million.

he Minister added that the first ase of 600 MW as a part of the 100 MW capacity would yield bene- s during the period 1984-86. The ower station would be constructed, erated and maintained by the ational Thermal Power Corporation. he power generated would be avail- ble for benefit of States in the eastern gion viz. Bihar, West Bengal, Orissa nd Sikkim.

teel Plants Promote Small ndustries

s a result of a study of the existing apacity of small scale units in the hilai-Durg region of Madhya Pradesh, bout 600 parts and components in hilai Steel Plant have been identified or manufacture by such units operating ear the steel plant. Similarly, 30 ew items have been identified in Rourkela Steel Plant.

n a written reply in the Lok Sabha ecently to a question on encourage- ment given by steel plants to small ndustrial units in the peripheral region, Mr. Karia Munda, Union Minister of State for Steel and Mines, said that periodical studies were undertaken by the steel plants in consultation with the concerned authorities to identify items which could be manufactured by small scale industries. Similarly, surveys are carried out to assess the capacities of the existing industries. Based on these surveys, plans are finalised for placement of order also for the development of new units.

The managements of steel plants provide encouragement to the growth of small scale industries around the steel plants in a variety of ways such as placement of regular orders on them for items which they can manufacture providing technical know-how and guiddance, helping in the management of raw materials, providing testing and laboratory facilities and training of personnel. Senior officers have been appointed in each plant to coordinate this work. Advisory Committee has also been formed under the Chairmanship of the Managing Directors of steel plants (with representatives drawn from the State Governments concerned, financial institutions and other local bodies) which reviews the progress of ancillary development programme from time to time and advise the managements in this regard.

More Hotels Apporved

The Union Minister for Tourism and Civil Aviation, Mr. Purushottam Kaushik, informed the Rajya Sabha recently that the proposals of the Hotel Corporation of India to put-up two 5-Star hotels, one at Juhu in Bombay at a cost of Rs. 128.3 million and another at Srinagar at a cost of Rs. 109.9 million had been approved. Work on these projects was expected to be taken up during 1979-80.

Expansion work on the "Ashok-Akbar" and "Ashok" Hotels in New Delhi of the India Tourism Development Corporation was in progress and it was expected to be completed during 1979-80 at a cost of Rs. 27 million and Rs. 10.1 million respectively, the Minister added.

The Minister also informed that construction had commenced on the first Ashok Yatri Niwas (Janata hotel) in New Delhi of 1,250 beds at an estimated cost of Rs. 30 million. It would be partially completed and commissioned (650 beds) during 1979-80. In reply to another question, the Minister informed the Lok Sabha that every encouragment would be given to prospective entrepreneurs desiring to construct Yatri Niwas (Janata hotels). The Minister also informed the members that guidelines for setting up Janata hotels, as well as model designs and layouts of such hotels of various sizes, would shortly be made available to interested parties to facilitate construction of this type of inexpensive accommodation in the private sector, at places of tourist, cultural and religious interest in the country.

Expanding Road Facilities

The Union Ministry of Shipping and Transport has launched a massive research and development programme in the roads sector, Most of it relates to applied research, having a direct bearing on planning, designing and construction of road facilities. A sum of Rs. 10 million has been provided for it in the next year's budget. This is five times the allocation of Rs. 2 million in 1976-77. The draft Sixth Plan contains a provision of about Rs. 60 million for such activities.

Seventeen schemes are currently at various stages of implementation. One of these relates to the study of highway designing and is expected to be completed by mid 1981. This will help in designing more economical road projects, determining of priorities within the available resources and minimising the total cost of transportation. It is a cooperative project, involving collaboration of the Ministry with the World Bank and the Central Road Research Institute. The Bank is providing a financial assistance of over Rs. 1.6 million.

Two other schemes relate to the collection of basic data regarding growth of traffic and load of commercial vehicles. This will go a long way in rationalising the future highway planning policies. Another scheme concerns the develop-

ment of appropriate criteria for different types of bituminous surfacing and will help in reducing the investment for the construction and maintenance of roads.

The Ministry has also identified a second package of 18 schemes for being taken up during the current plan period. These are in the planning stage and involve an outlay of about Rs. 36 million.

Science and Technology for Small Industries

The Draft Sixth Five Year Plan 1978-83, envisages an increase in the production in the small industries sector from Rs. 67,000 million per annum to Rs. 267,000 million per annum. The Plan also refers to the fact that in the past, the benefits on many schemes of science and technology have not reached the target of population and, therefore, new programmes for improving the quality of life have to be initiated and appropriate systems involved for monitoring and evaluating science and technology projects and schemes. The decentralised development with emphasis on employment generation calls for the development of new strategies different from those adopted for rapid growth of high capital intensive industries.

The Plan also envisages that the increase of 300 percent in production should be achieved with only 100 percent increase in employment and, therefore, calls for measures that would improve the productivity per person employed. It calls for enormous effort in terms of taking science and technology to villages so that it is brought well within the skills and financial resources of rural people.

There is urgent necessity to provide linkages between field problems and research laboratories because inspite of the 900 research institutions and an expenditure of Rs. 4000 million per annum, a very large sector of small and tiny industries has not been given adequate inputs of relevant technology.

Several questions arise about the organisational needs for making available to the small sectors, improved technologies from time to time by translating to the field basis work that has already been done in research institutions. It would also involve the setting up of suitable machinery for continuous flow of information from the field to the laboratories.

The greatest problem that small industries sector faces is its inability and lack of resources to identify its pure-technology problems and to have access to the agencies where such problems would be tackled. The small sector collectively would represent a very major part of the total productive sector. Is it possible that their production programmes and facilities are developed in such a manner that in some areas the economies of scale and specialisation are availed of with research and development efforts ? Another question that would arise is the necessity to reorient production patterns of large industry inputs supplying to subserve the needs of decentralised production.

One of the problems faced by some of the high technology based small scale units is the lack of resources for research. These are expensive and cannot always remain fully utilised. Is it possible to think of a system that would provide a technologist entrepreneur facilities to carry on with his research and whether in such cases financial and other support could be made available ? These are some of the issues that are relevant to the extension of sci- technology to the decentralised

Stress on Minor Irriga and CAD Programmes

Both minor irrigation and Co Area Development (CAD) a programmes under the agr sector. The target of creating ad irrigation potential of 9 milli under minor irrigation schemes 1978-83 would be within the r achievement. Efforts would als to be made to achieve maximu up in the flow of institutional inve through streamlining and simplif of procedures, organising su drives for improved recovery p and organising local campaig on-the-spot clearance of oblig Similarly, concerted efforts woul to be made to accelerate the con area development programme was vitally important for expe and efficient utilisation of irri potential and optimising prod benefits from irrigated agricul These are the recommendations All India Conference of State Mi incharge of Minor Irrigation Command Area Development he New Delhi recently.

The Union Minister for Agricultur Irrigation, Mr. Surjit Singh Bar in a letter addressed to all the C Ministers of State and Union Ter ries has expressed the feeling that n irrigation and CAD being key grammes under the agriculture se the States would already have initi necessary follow-up action on t recommendations. The other n highlights of recommendations ac ding to the letter are making effort fully realise and even exceed the get of energising 2 million pumpsets for the mid-term Plan by making use of the participative programm

Rural Electrification Corporation(REC) Agricultural Refinance and Development Corporation (ARDC) and Commercial Banks recently introduced, earmarking certain minimum percentage of power generated from new projects exclusively for agriculture purposes and achieving greater co-ordination between the financing and the implementing agency. The Conference has also recommended for the planning, execution and maintenance of the minor irrigation work, undertaking specific measures in the identified areas, laying emphasis on quick completion of minor irrigation works and making maximum use of the Food for Work programme to complete the ongoing works.

It has been suggested that Command Area approach be applied to minor irrigation works to improve their utilisation and minor irrigation programme might be oriented in favour of weaker sections by encouraging group works and public tube wells in areas where there was preponderence of small farmers and by taking full advantage of facility of subsidy for small and marginal farmers which had been extended to all areas. The field organisations should be strengthened and adequate machinery set up at the State level for more vigorous monitoring and coordination.

In the field of Command Area Development, the recommendations of the Conference include a significant stepping up of the pace of execution of on-farm development works by strengthening field units and streamlining the flow of institutional finance. Giving maximum priority to construction of field channels to make water available for irrigation to the individual fields and outlets to serve blocks upto 40 ha. to be provided at project cost as per Planning Commission's directive and field channels upto each holding to be constructed by State Government at their cost.

The recommendations also suggest that the consolidation of holdings should be given priority for scientific execution of on-farm development works and if this was not likely to be feasible at least take up a minimum programme of realignment of field boundaries. While emphasising execution of OFD works under CAD programme, items like warabandi, crop planning, agricultural extension, supply of inputs, supplemental irrigation through ground water, construction of roads and markets also shall be given urgent attention. Modernisation of irrigation projects and construction of drainage network should be given priority and adequate funds earmarked in the State Plans under the irrigation sector for these works and for handling CAD programmes which were of complex nature. It was vitally important that the organisational infrastructure at the project and the State level should be adequately strengthened and senior level officers placed incharge of the programme.

International Assistance for Indian Agriculture

Mr. Abdelmuhsin M Al-Sudeary, President of the International Fund for Agricultural Development, who visited India recently, indicated that the International Fund for Agricultural Development was anxious to contribute towards India's efforts to develop her agriculture and they were looking forward to an era of fruitful cooperation with India. He explained that his organisation aimed at helping the poor farmers and the landless people to boost agricultural production.

The International Fund for Agricultural Development is likely to assist three projects in India to start with. They are (1) Bhima Irrigation Project in Maharashtra, (2) Sunderbans Area Development Projects in West Bengal and (3) Rajasthan Canal Command Area Development Project (Stage I, Phase II). In addition, India would like the Fund to assist Madhya Pradesh Irrigation Project.

The quantum of assistance to be provided for each of these projects, however, has not yet been worked out.

Science and Technology

Solar Photovoltaic Modules for Ship Navigation

For the first time, India-made solar photovoltaic modules have been installed to energise a ship-navigation equipment. Two modules PM 621 of peak capacity 8 watts each were supplied to the Department of Light Houses and the installation was completed in December, 1978 at Dwarika in Gujarat.

These modules have been manufactured by Central Electronics Limited (CEL) at Sahibabad under a project sponsored by the Department of Science and Technology.

These modules are used to charge 12 volt lead acid battery through a charging regulator during sun-shine hours. The regulator was also developed at CEL. The battery energises RECON, an equipment used for ship-navigation. Apart from providing free energy from the sun for charging the battery, use of photovoltaic modules at such remote light houses eliminates heavy expenditure incurred on transporting the battery

up and down for the purpose of charging.

Future installation of such systems in more remote light houses is being planned by the Department of Light Houses and CEL.

Heat Recovery Turbopack System Designed

Energy conservation by utilisation of either waste heat or a renewable source, such as solar energy, is becoming an urgent necessity in modern world. With this thought in mind, the Propulsion Division of the National Acronantical Laboratory, Bangalore has undertaken a feasibility demonstration towards the application of turbomachinery to very small power ratings at a low turbine temperature. As a part of the activity under the UNDP-assisted Project 'Establishment of Turbomachinery and Combusion Laboratory', a turbine working on acetone-based Rankine loop was designed and built to drive a conventional centrifugal pump. The whole system was constructed mostly out of the components and materials available in the laboratory, and was commissioned successfully within a year's time from the conceptual stage.

This system has been designed keeping the cost factor in the forefront. It is rated for a nominal output of 1 KW only to establish the pessimistic performance level. At higher power ratings, the performance improves significantly due to reduced percentage magnitude of mechanical losses, such as disc friction, bearing and seal losses. In the first variant of design, the turbopack runs at 10,000 RPM with a turbine entry temperature of 60 degrees centrigrade only. It drives a centrifugal pump running at 1,500 RPM by means of a pulley and belt.

Acetone was found to be a suitable working fluid for the low temperature Rankine turbopack system, for the following reasons :

(i) It is a liquid at ambient temperature and pressure.

(ii) Its boiling point is higher than the minimum expected ambient temperature, yet sufficiently low to utilise low temperature heat for its evaporation.

(iii) Latent heat of evaporation is relatively low.

(iv) It is non-toxic, non-corrosive and easily available in India.

It was decided to operate the Rankine cycle around atmospheric pressure in order to simplify shaft-sealing problem and to reduce disc friction loss at high speed. Freon 113 (Trichlorotrifluoroethane) was also found to be a suitable working fluid. In fact, it has superiority over acetone in view of the disadvantageous features of acetone such as combustibility and solvent property. However, it was decided to initiate the work with acetone since Freon 113 is not available in India.

The complete system of turbopack, along with the closed-circuit acetone Rankine loop, commissioned recently has been run at different speeds to measure its performance. Based on the experimental results obtained hitherto, it is expected that the net efficiency of the turbopack would be about 43 percent and it would increase to about 59 percent at 6 KW power rating, when full admission is provided to the same turbine. The condensate pump of Rankine cycle absorbs less than 2 percent of the shaft power produced by the turbopack. The turbopack has shown excellent starting characteristics due to high torque at zero speed. Carnot efficiency low temperature cycle is or percent. The corresponding Rankine cycle efficiency is 4.1 while the actual thermal cycle ef will be 2.4 percent at a powe of 6 KW.

The immediate application of system can be found in the util of waste heat from industries, ch plants and in the utilisation c thermal energy. The estimate of this system is Rs. 15,000 installed KW. If the waste h available in the form of hot or steam continuously at a tempe above 80 degrees centigrade and ming 80 percent availability in and 20 percent of capital c annual charges for depreciation, i and maintenance, such a syste produce electric energy at a c Re. 0.50 per kwh. This rate electricity is close to the cost of el energy from thermal plants, ev today's pricing. The economi this system in conjunction with energy will be practically gov by the cost flat-plate solar-coll The development of flat-plate collectors will have to be wat carefully. This system utilising energy may still be a viable sol for remote rural areas.

The second variant of the turbo has now been designed to imp on the design of first variant. second variant will run at 3000 R directly driving a pump or an altern thus eliminating belt/gearing. design provides for almost herm sealing of the working fluid and drives a condensate pump-impe mounted on the same shaft. design is expected to offer long reliability and easy maintenance e in rural areas.

A turbopack system with a low power rating of 1 KW and working on acetone-based Rankine cycle at such a low temperature is probably the first of its kind in the world.

Progress of Space Programme

The activities of the Department of Space in 1977-78 were aimed at making use of the earlier achievements in application-oriented projects in securing tangible socio-economic benefits for the nation. Listing the main programmes, the annual report of the Department for 1977-78 says that progress was made in the Satellite Telecommunications Experiments Projects (STEP), the Ariane Passenger Payload Experiment (APPLE), the Satellite for Earth Observations (SEO), the Indian National Satellite (INSAT) programme and the maturation of development work in Remote Sensing.

A significant development in the Space technology has been the flight-testing of a guided and attitude controlled RH-560 sounding rocket. Under the Rohini Sounding Rockets (RSR) programme, a series of sounding rockets are developed and produced for meteorological soundings and for the scientific investigation of the upper atmosphere. The larger of the sounding rockets are also used as flight test vehicles for technological payloads and sub-systems. Four types of sounding rockets are currently operational. Three more are under development. The RH-560S and the RH-200+RH-125 systems are undergoing qualification tests.

Through an agreement with the French firm, Societe Europeene de Propulsion (SEP), Indian Space Research Organisation (ISRO) engineers have been participating in the Viking rocket engine development programme and the European launch vehicle, 'Ariane'. By this means, the technology and know-how are being acquired for the development of testing of high-thrust liquid rocket motors. This is being paid for, in part, by the export of high-quality pressure transducers from the Pressure Transducer Unit located in the campus of the National Aeronautical Laboratory, Bangalore.

In 1977-78, the sub-systems of Satellite Launch Vehicle (SLV) reached the qualification phase, after ground and flight evaluation of the proto-type units. SLV is a four-stage, solid propellant vehicle, designed to place a technological satellite weighing 40 kg in a near-earth orbit. Most of the sub-systems for SLV have been developed and are undergoing ground and flight qualification. The sub-systems readiness is geared towards achieving the first orbital launch towards the middle of 1979.

In furtherance of the objective of using space technology for socio-economic benefits, the Government has approved the establishment of the Indian National Satellite (INSAT) system in the first quarter of 1981. Cutting across the traditional jurisdictional boundaries of ministries and departments of the government, it is a multi-purpose satellite system for telecommunications and meteorology and has capability for nation-wide direct TV broadcast to community TV receivers in rural areas. The National Aeronautics and Space Administration (NASA) of the United States of America will provide launch services for INSAT-I. The NASA has also been selected to provide the back-up launch vehicle, a Delta 3910 expandable vehicle, for the first INSAT-I.

The efficacy of satellite communication using a jeep-mounted Emergency Communication Terminal to provide reliable communication during emergencies was demonstrated recently when the Terminal was used to provide a telephone link with Vijaywada soon after the devastating cyclone in Andhra Pradesh. The experience in satellite-based communication gained during the SITE programme has been directly used in STEP. STEP is a joint ISRO—Post and Telegraph project in which under an agreement with space agencies of France and West Germany, the France-German "symphonie" satellite has been made available to ISRO till mid-1979, for conducting experiments in telephony and programme transmission for the radio network. It is also used for transmitting TV programmes to major earth stations in the national TV hookup.

India's second satellite, the Satellite for Earth Observations (SEO), is approaching readiness and will be launched soon from the Soviet Union. SEO will add a new dimension to the country's capabilities in obtaining and using remotely-sensed information and in meteorological data collection. SEO will generate imagery with a resolution down to 1 km. Special efforts are being made to ensure that this imagery becomes usable by national developmental agencies as quickly as possible.

The Indian project APPLE envisages the development, launch, orbital operations and utilisation of a 616 kg three axis stabilised geo-stationary communication spacecraft during 1977-1982. In the APPLE, an Indian designed and built experimental synchronous communication satellite will

be flown on the third developmental flight of the "Ariane" launch vehicle of the European Space Agency in May, 1980.

The satellite is intended to be a precursor of an indigenous second-generation INSAT-II to be built in India in the coming decade. This important project will provide Indian scientists and engineers with valuable experience in the design, fabrication, testing, qualification, in-orbit manoeuvre and mission management of communications satellites. The spacecraft is taking shape as per schedule. The structural and thermal models of the spacecraft are being fabricated.

A Profile of Cement Industry

Cement is one of the most important raw materials for building houses, factories, dams, canals, roads, bridges and many other civil and defence constructions.

Production of cement started in India with the setting up of a cement factory near Madras in 1904. Since then the industry has come a long way. At present, the Indian cement industry ranks ninth in the world production of cement. The leading cement producing nations of the world are : USSR, USA, Japan, West Germany, Italy, France and Spain. However, the per capita consumption of cement in India is the lowest at about 28 percent. A random sampling of the consumption of cement of 29 countries carried out in 1975, showed that the leading per capita consumers are Belgium (703 kg), Hong Kong (132 kg) and Thailand (95 kg).

During the First Plan, the capacity of the cement industry grew by about 9 percent per annum and the actual production and capacity achieved at the end of the plan were close to the respective targets. In the Second Plan, the rate of growth was around 13 percent but actual production and capacity were far below the targets set. In fact, the Second Plan targets were realised only by the end of the Third Plan.

The rate of growth declined to 5 percent in the Third Plan and rose again to a little over 7 percent in the three years of plan holiday (1966-69) and the Fourth Plan. But the rate of growth was too slow to make any impact either on increasing the production or capacity. In the last two years of the Fourth Plan, the level of installed capacity remained stationary with the number of units remaining unchanged at 49.

During the first 4 years (1974-77) of the Fifth Plan, the annual rate of growth (capacity-wise) was only about 2-3 percent. The Fifth Plan document placed the capacity target at 23.5 million tonnes. Subsequently, the working group on cement industry constituted by the Planning Commission reviewed the position of demand and concluded that the demand of cement will be about 23.9 million tonnes by 1978-79. The capacity, production and capacity utilization of the cement industry during the seventies are discussed later.

At present there are 55 cement factories in the country. The industry is dominated by the private sector which controls 45 factories with the Associated Cement Company owning 17 of these.

The cement factories are predominantly located in the southern and western States of the country (there are 20 factories in the southern region). The States in the southern and western regions of the country have traditionally been surplus ones, while t the northern and eastern regio ones. The factories in the s and western regions account fo 68 percent of the total ceme duction. The consumption i regions, however, amounts t about 50 percent. On th hand, demand for cement northern and eastern regions country exceeds the productio

Although there was a fall in proc by 660,000 tonnes during 197 since then production of cement creased steadily, due to better ca utilization. However, the prod of more than 19 million ton cement during 1977-78 was not e to meet the demand and the sh had to be made up through im According to the working grou cement industry constituted b Planning Commission, the dema cement will be about be abou million tonnes at the end of 19 It has been predicted that the between demand and supply of ce would be 4.17 million tonnes in 19 4.26 tonnes in 1980-81 and 3.92 mi in 1981-82.

The Union Industry Ministry laid down the following guide to be followed when considering posals for additional capacity. Utilization of low grade limes after beneficiation, specially in de areas, should be encouraged; Having regard to the implicat of transport of cement over l distances, proposals for locating clin grinding capacity near the cen of demand, on the basis of movem fo clinker from location which h advantage of raw materials etc., wo be considred; (3) Proposals for ad

tional capacity should cover detailed information regarding the quality and extent of limestone deposits. Entrepreneurs should therefore, consult, in the first instance, the State Mining Department, Geological Survey of India and other concerned organizations regarding limestone surveys; (4) Import of cement machinery must not be permitted; (5) There is saving in coal consumption to the extent of 27 percent in the dry process as compared to the wet process. The choice of process is also dependent upon other factors such as the quality of limestone and availability of water. Wherever possible and economical, the dry process should be adopted; (6) The standard capacity of cement plants has been 1000-1200 tonnes per day, but in special locations, depending upon the availability of limestone and other factors, smaller capacity of about 600 tonnes per day would be considered. There is considerable potential for export of cement to the ne ghbouring countries. Proposals for large coastal plants mainly geared for exports should be considered on merit; (7) Installation of mini cement plants, using either rotary of shaft kiln process should be encouraged for locations having small deposits of lim stone and having limited demand; (8) Special consideration should be given to proposals aimed at : (i) locating cement capacity in deficit areas ; (ii) utilization of industrial wastes like blast furnace slag and fly ash ; (iii) rationalization of locations on the basis of split-locations, wherever feasible; (iv) reduction in the incidence of packing cost by resorting to bulk distribution of cement and supply of ready-made concrete mixtures; (v) maximization of production out of the existing facilities through technological improvement, conversion from wet process to dry process, balancing and modernization.

There is no need for foreign collaboration in this industry, as adequate consultancy services are available within the country.

There is ample scope for better performance and productivity in the industry because the basic inputs, viz. raw materials, power, fuel and machinery, are indigenously available in the country. The entire production is sold without any difficulty except during rainy season and when the government demand (about 40 percent of the total production) is slack. Moreover, there is demand for the product in the neighbouring oil-rich West Asian countries which have embarked upon ambitious development programmes.

Small quantities of cement and clinker are exported mainly to Iran, Iraq, Egypt, Saudi Arabia, many other Middle East and Gulf countries, and Bangladesh. Exports are canalised through STC. The quantity to be exported is earmarked after taking into consideration domestic demand and supply at the beginning of each financial year. Under the joint marketing arrangement, export contracts are then concluded by STC and the cement manufacturers.

There has been a continuous increase in cement exports in recent years, from 301,000 tonnes value at Rs. 85.82 million in 1975 to 386.000 tonnes valued at Rs. 142.33 million in 1976 and 819,000 tonnes valued at Rs. 271.82 million in 1977.

There was practically no import of cement during 1975 and 1976. However, due to the gap between demand and production in 1977, substantial amount of cement had to be imported from USA, the Netherlands and West Germany.

Mini cement plants have serveral advantages ; (1) bringing cement industry within the financial access of smaller entrepreneurs; (2) creation of increased employment opportunities in rural areas on well dispersed basis ; (3) increased availability of cement in rural areas for construction purposes with low transport cost ; (4) development of the local economy at the grassroots level ; (5) realization of quicker returns on capital invested because of low gestation period; (6) exploitation of small and medium size deposits of limestone scattered all over the country with limited requirements of power and water; (7) reduction of strain on the country's transporatation infrastructure, which is already poor in many areas; (8) lower capital investment per unit of capacity and less time for erection and operation ; (9) avoidance of wasteful movement of materials, thus bringing down the average unit cost of transporation ; and (10) reduction in packaging charges as the area of utilization is restricted.

Although the production cost is higher for mini cement plants, they score over conventional plants in respect of transport, handling and packaging costs. Mini cement units also have minimal godown charges to pay.

There are at present 6 mini cement plants in the country in various stages of operation. However, these plants are being operated mainly on an experimental basis to study their viability. Fifteen mini cement plants with daily capacities ranging between 50 and 100 tonnes are expected to be commissioned between May 1979 and March 1980. Out of these nearly half are in the private sector. The rest are in the public sector, mostly promoted by State governments. □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroa

Event	Dates
Milan International Fair, Milan (Italy)	April 14-23, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	May 24-28, 1979
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
International Trade Fair, Maputo (Mozambique)	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
International Fair of Santiago (Chile), FISA '79	October 25-November 11, 19
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March, 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragat Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

News Highlights

Import Substitution Saves Foreign Exchange

Foreign exchange to the tune of about Rs. 72 million has been saved as a result of import substitution activities in the country during 1977-78. The substitutions made by the small scale units account for Rs. 18 million while those of large scale units represent Rs. 54 million.

India to Participate in Hannover Fair

India will participate, for the first time, in the sub-contracting section of the Hannover Fair, West Germany, to be held from April 18 to 26, 1979. The participation is being organised by the Trade Development Authority. (Page 3)

Heavy Industry Units Output Up

The aggregate production of the 15 undertakings under Union Ministry of Industry, during the first eleven months of 1978-79 was Rs. 9,235.90 million, which is 28 percent higher than the production of Rs. 7,198.80 million during the same period of 1977-78.

(*Contd. on page 2*)

Export Performance and Potential

India International Trade Fair '79

The first India International Trade Fair (IITF'79) scheduled to be held in New Delhi from November 10 to December 9, 1979 will offer extensive opportunities to firms and organisations in India to market a variety of manufactured goods as also find outlets for the technical know-how and consultancy services.

The object of the fair is to promote trade between India and the rest of the world and to encourage new investments by Indian firms in joint ventures abroad.

The theme of the fair is 'Trade for Prosperity'. The IITF'79 will cover all aspects of industry, agriculture, trade and scientific and technological advancements, thereby providing scope for exchange of scientific and technological experience among the various participants. A large number of visitors including businessmen and business delegations from other countries are expected to visit the fair.

More than 30 countries from all the continents are expected to take part in this fair and it is expected that by the time the fair is inaugurated, it will be fully international in character. The countries which have consented to participate are Australia, Bangladesh, Bulgaria, China, Czecoslovakia, GDR, Hungary, Iraq, Japan, Poland, Syria, USSR and Zambia. Countries whose formal confirmation is under way are Afghanistan, Britain, Congo, France, Brazil, Canada etc. The Trade Fair Authority of India will invite trade delegations from various countries and arrange for their visits to the fair and provide all facilities for making business contacts in India. The participants will be granted a fair quota in the fair, the quantum of

New Regulations for Meat Exports

The Government of India has announced a number of new measures for regulating exports of meat and live animals, following fluctuations in prices in local market and consequential disruption in export of meat. The new regulations have been proposed after consultation with representatives of meat exporters. (Page 4)

Marisat Satellite Communication Services

Telephone and telex calls from India to ships in the Indian ocean region have been introduced from March 15, 1979. The service is available as extensions of the existing International telephone and telex services to Tokyo to the Marisat equipped ships via the Marisat satellite link.

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which will be as follows : (i) Rs. 2,500 per square metre of space boo subject to a maximum of Rs. 2,500,000 for each country participa in the fair at National level and (ii) Rs. 750 per square metre of sp booked subject to a maximum of Rs. 750,000 for each foreign commer firm participating independently in the fair. Exhibitiors will be allov to sell at the close of the fair on payment of the requisite customs d etc., such of the exhibits as are otherwise permissible for import into country under the Import Trade Control Policy in force at that time, p vided the buyer holds a valid import licence for the goods in quest suitably endorsed by the licensing authorities.

The level of national participation will also be on a high scale. The Min ries of the Government of India and departments and organisations fr various Ministries will take part in this fair in a big way. The pub sector firms and organisations such as Steel Authority of India, Bha Heavy Electricals, Bharat Pumps and Compressors, Minerals and Alli Machinery Corporation, Oil and Natural Gas Commission, Fertiliz Corporation of India, National Small Industries Corporation, Kha and Village Industries Commission, Electronics Trade and Technolo Development Corporation etc. as also Export Promotion Councils a Commodity Boards will also set up their pavilions or display stalls. Ad tionally, there will be pavilions set up by almost all the States of Indi Union Territories displaying manufactured goods and handicrafts of ea area.

Further information may be had from : The Managing Director, Trad Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Mar New Delhi-110001, Post Box No. 742 ; Telex 031-2751 ; Cable : COMEXF New Delhi.

HSCL to Set Up Housing Units in Algeria

Hindustan Steel Works Construction Limited (HSCL), a public secto undertaking under the Union Ministry of Steel and Mines and the Algeria National Construction Company (DNC) will jointly construct 1,400 housin units and three prefabrication factories in Algeria. A protocol to thi effect was signed between HSCL and DNC in Algeria recently.

The protocol envisages the possibility of additional construction bein taken up jointly by these two undertakings, HSCL will be associating Danish company for obtaining certain specialised equipment and know-how

Formal contracts for construction works would be worked out later.

The HCL, which was incorporated in 1964 with the principal object of undertaking all major construction works connected with the setting up of steel plants, has over the years diversified its activities to include const- ruction of dams, power houses, industrial buildings, factories and bridges. In the steel sector, among the construction projects the company is engnged in at present, are those relating to the expansion of the Bokaro and Bhilai Steel Plants and the other major steel works. Outside the steel sector, it is working, among others, on the Kudremukh and Donimali iron ore projects and the super thermal power plant at Singrauli.

Indo-Soviet Cooperation in Coal Utilisation

The long-term programme of economic, trade, scientific and technical cooperation between India and the USSR includes cooperation in the field of coal utilisation, development of process for production of fuel,

s, liquid fiel and chemicals from al, use of material recovered from al preparation wastes, etc.

his information was given by the nion Minister of State for Energy, Ir. Janeshwar Mishra, in a written ply to a question in the Lok Sabha cently.

he Minister said that a team of Soviet xperts visited India and discussed ith Centeral Fuel Research Insttiute nd Central Mine Planning and

esign Institute. It was decided to xchange information, data and status f the present work available with oth parties with a view to identifying he spheres of cooperation.

uch cooperation in the field of science nd technology in respect of coal vas under various stages of discussion vith West Germany, Australia, etc., he Minister added.

Bahrain's Interest in Indian Drugs and Equipment

The possibilities of close cooperation between India and Bahrain in the field of public health and medical education were discussed at New Delhi recently, when Dr. Ali M. Fakhro, the Bahrain Health Minister called on Mr. Rabi Ray, Union Minister of Health and Family Welfare.

During discussion, the visiting dignitory sought India's cooperation for training in the field of medical education, general nursing and specialised nursing. He also showed keen interest in purchase of drugs, pharmaceuticals, medical and hospital equipments.

Mr. Rabi Ray said that he did not see any difficulty in coming to an agreement on these aspects after working out the necessary modalities. The Bahrain Health Minister was here as the guest of the Indian Government. He visited various medical institutes and pharmaceutical concerns in the country.

India to Participate in Hannover Fair

India will participate for the first time in the sub-contracting section in the Hannover Fair, West Germany to be held from April 18 to 26, 1978. The participation of the Indian firms is being organised by the Trade Development Authority.

The Hannover Fair is devoted to industrial products. India's participation is expected to yield positive results since the Fair has been a big draw every year. Last year over 5,000 firms from 42 countries participated in the Hannover Fair. Of these nearly 4,800 were direct exhibitors. There was more emphasis on capital and technical consumer goods which were synoptically displayed according to applications.

According to recent industrial surveys, there is a wide scope for industrial firms to secure sub-contracting business in the developed countries. More and more industrial houses in the West are switching from manufacturing or processing parts in their own factories to allocating the work to qualified sub-contractors.

Products like forgings, punched and drawn parts, press parts, sections and shapes, connecting elements, chains, machanical parts, plastic parts, rubber parts, tools, appliances etc. will be on display at the Fair.

Significant Cycle Export Order

An Indian firm, M/s. Atlas Cycle Industries Limited has recently bagged order for export of 11,000 Eastern Star Cycles from Egypt. The agreement for this was recently signed by the Atlas Sales Director, Mr. Jagdish Kapur with Mr. M. A. Mohamed, Proprietor of Messrs Mohamed A. Mohammed, Alexandria, one of the largest importers of bicycles of Egypt during former's sales promotion tour to that country.

This is one of the biggest export orders bagged by Atlas in recent years. The total value of export comes to more than Rs. 3 million and the agreement stipulates export of Eastern Star bicycles over a period of one year.

As per the agreement, Atlas is to supply 4000 sets Eastern Star double bar 55 cm bicycles in standard black enamelled colour ; 4000 sets in red, blue and green enamelled colours and 3000 sets of single top tube SLR model in 52.5 cm size in flamboyant maroon, blue and green colours.

It may be mentioned that Egypt is one of the 63 countries the world over where Atlas bicycles and components have been readily accepted. It was in the year 1958 that the company entered the export field in a small way when its bicycles and parts were exported to just 3 countries in the Middle East. Since then, there has been steady increase in company's export orders. Today the company has around 63 countries on its export list which include not only the developing countries but industrially advanced and developed nations too, like USA, UK, Japan, West Germany, Australia, Holland and Denmark.

Another achievement of the company has been in the export of technology and consultancy for setting up bicylce manufacturing units abroad. So far such collaboration agreements have been finalised with Iran, Tanzania,

Guyana, Zambia, Sudan and Bangladesh.

New Regulations for Meat Exports

The Government of India has decided a number of measures for regulating exports of meat and live animals, following fluctuations in prices in local market and consequential disruption in export of meat.

The new steps proposed after consultations with representatives of meat exports are :

(i) As a long-term export measure, meat exporters would procure their requirements of live animals for export slaughtering only through designated State Agencies. This arrangement would come into effect three months from now.

(ii) The Governments of Rajasthan, Haryana and Gujarat have been requested to gear their purchase and supply machinery to meet the demand of the exporters from that date.

(iii) In the interim period, with a view to maintaining the markets abroad, exporters would be allowed to purchase their requirements from local metropolitan mandis as well, on the condition that the purchases will be effected by a consortium of exporters who should make a clear announcement of the price at which local procurement would be made.

(iv) The consortium of exporters would also abide by their commitment that they would purchase for exports from the metroplitan mandi, only after the daily requirements in the domestic market has been met and if total arrivals on any date falls short of this requirement, there shall be no "export-slaughter" on that day.

(v) Clear instructions will be issued by the concerned State Governments to retail sellers regarding selling points

vi) All encouragement would be given by the concerned State Governments to the exporters for setting up of sheep farms exclusively for export purposes.

Higher Earnings from Tourist Traffic

The amount of foreign exchange earned from tourist traffic during the last three years was of the order of Rs. 3,300 million in 1978, Rs. 2,830 million in 1977 and Rs. 2,250 million in 1976. This information was given by the Union Minister for Tourism and Civil Aviation, Mr. Purushottam Kaushik in a written reply to a question in Lok Sabha recently.

The Minister said that various steps had been taken by the Government to attract more tourists to this country. These included making of major improvements at the four International Airports and simplifying clearance formalities. Facilities for water sports, trecking for the youth were also being developed, the Minister added.

The Minister also said that for the budget minded international tourists, Janata Hotels were being constructed which would provide inexpensive, clean and comfortable accommodation to them. The Minister also informed members that the introduction of direct air-service with more frequency between West Asia and Trivandrum had helped to increase the fl tourists to South India.

Export of Indian Coffee

Exports of coffee have register marked improvement during th ten years from 25,833 tonnes in 19 to 55,827 tonnes in 1977-78. C production in the country stoo 1,18,500 tonnes during 1977-7 which, 55,827 tonnes were exp earning over Rs. 2,300 millio foreign exchange. The prinicpal b are the European countries, U USA, Canada and Australia. S West Asian and African countrie buy small quantities, of coffee India. There has, however, bee decline in the value of coffee exp during 1978-79. According to provisional figures given in the Ec mic Survey, 1978-79, the value coffee exports during April-Septem 1978-79 was Rs. 770 million as c pared with Rs. 1,255 million in corresponding period during 1977-

The scope for augumenting the exp of this item is considered quite go The United Nations Food and A culture Organisation has forecast t the world offtake of coffee may gr at an annual rate of 2.5 percent dur the decade, 1970-80, with substanti higher offtake by countries which at present meeting their requireme only partly from India.

Domestic consumption of coffee, wh was almost stagnant around 38,(tonnes per annum for the past f years, has increased of late, the e mated consumption in 1977 bei 45,000 tonnes. The crop is grown an area of 171,535 hectares (1976-7 concentrated in peninsular India. K nataka accounts for the bulk (percent) of the total area, follow by Kerala (24 percent) and Tam Nadu (15 percent).

eeping in view the anticipated internal nd export demand for this beverage, ne Coffee Board has formulated a erspective plan for coffee development hich envisages doubling of production y the end of this century though igher yields in traditional areas and xtedsive cultivation in non-traditional reas. The Board has already built p the necessary infrastructure to nder technical support and reorgani-ed its research and extension wings uitably to meet the developmental eeds. Meanwhile, the Planning Com-nission and the Commerce Ministry, n collaboration with the concerned State Governments, have drawn up n action programme for coffee deve-opment. Special development schemes ave been formulated for the benefit f small growers.

Assistance for Export Markets Development

The budgetary proposals for 1979-80 extending the scope of export markets development allowance are expected to act as big incentive in developing export markets. At present, export markets development allowance is granted only to small scale exporters, holders of an Export House Certificate and persons engaged in the business of provision of technical know-how to persons outside India. It is proposed to extend the benefits of this tax concession to all domestic companies and resident non-corporate tax payers at a uniform rate of 133.3 percent of the qualifying expenditure to enable exporters to develop export markets on a long-term basis. For this purpose, expenditure on advertisements or publicity outside India in respect of goods, services or facilities dealt in or provided by the tax payers in the course of his business will be included in the category of expenditure qualifying for the weighted deduction. This tax concession will amount to Rs. 50 million a year. For 1979-80, the concesssion will be of the order of Rs. 40 million.

The scope of the Section 35B of the Income Tax Act relating to export markets development allowance was curtailed laxt year. The trade and industry had often voiced its grievances relating to this curtailment.

India's Concern at Growing Protectionism

Speaking at the plenary session of 35th session of ESCAP recently at Manila, Mr. Arif Beg, Union Minister of State of Commerce, Civil Supplies and Cooperation, has expressed grave concern at the fact that most of the countries in ESCAP region had been unable to attain targets set out in international development strategy for the Second United Nations Development Decade due to reasons beyond their control. This had a bearing on the well-being of humanity as a whole since more than half of the world's population resided in this region.

Referring to protectionism by developed countries, the Minister said that India had taken the bold initiative of greatly liberalising its import policies. Consequently, India's total imports had registered a substantial increase. While a developing country like India had done so much recently to dismantle barriers to trade, it was distressing to note that protectionism was steadily raising its ugly head in the markets of the world's developed economics. This had seriously hurt India's exports which have decelerated significantly. Efforts to perpetuate the inequities inherent in the prevailing international economic order were being continuonsly made and vital decisions relating to the management of the world economy were taken in conclaves where developing countries were not permitting to participate. He said that the doors of developed country members were being increasingly closed to exports from developing countries. The terms of trade for the developing countries also continued to decline. The Minister said that unwillingness of developed countries to make the much needed long-term structural adjustments in their economies had also been largely responsible for the continued inflation in these countries which in turn was being transmitted to developing countries. The Minister warned that if the developed countries persisited with these protectionist measures, many developing countries might be left with no option but to reverse the process of liberalisation of their trade regimes.

The Minister also expressed disappointment that flow of official development assistance to developing countries had been continuously declining. In 1977 it was less than one third of one percent of the GNP of the developed countries which was less than one half of the internationally agreed ODA target. It is unfortunate that some of the most affluent donor countries were the ones which are farthest from the target. Regarding debt rescheduling, the Minister said that some developed countries had recently taken action to cancel past debts of low income countries. However, some major creditor countries had restricted their debt relief measures only to some low income countries whereas there was need for such measures to cover all low income countries.

The Minister criticised the arbitrary concepts of graduation among developing countries, selectivity in the application of safeguard provisions,

(*Contd on page* 7)

India's Imports by Major Commodity Groups

(Rs. million)

Commodity	1976-77	1977-78*	*Percentage change in 1977-78 over 1976-77*	*April-September*		*Percentage change in 1978-79 over 1977-78*
				1977-78	1978-79†	
1	2	3	4	5	6	7
1. Cereals and cereal preparations	8676.0	1224.0	–859.0	525.0	345.0	(—)343.0
2. Raw cotton	1295.0	1989.0	536.0	1002.0	194.0	(—)806.0
3. Raw wool	262.0	286.0	91.0	128.0	143.0	117.0
4. Synthetic and regenerated fibres (man-made fibres)	301.0	1918.0	5372.0	903.0	952.0	54.0
5. Vegetable oils, fixed (edible oils)	1006.0	7116.0	6074.0	3315.0	3181.0	(—)40.0
6. Fertilisers and fertiliser materials	2612.0	3380.0	294.0	876.0	1612.0	840.0
7. P.O.L.	14134.0	15564.0	101.0	7765.0	7846.0	10.0
8. Chemical elements and compounds	1378.0	1944.0	411.0	776.0	937.0	207.0
9. Paper and paper board and manufactures thereof	611.0	817.0	337.0	431.0	568.0	318.0
10. Pearls, precious and semi-precious stones, unworked or worked	1806.0	3307.0	831.0	1500.0	2051.0	367.0
11. Metals (iron and steel and non-ferrous)	3765.0	4504.0	196.0	1659.0	2444.0	473.0
12 Capital goods	10794.0	11581.0	73.0	5145.0	5755.0	119.0
13. Others	4098.0	6630.0	618.0	3045.0	4827.0	585.0
Imports TOTAL	50738.0	60260.00	188.0	27070.0	30855.0	140.0

*Provisional.
†Quick estimates.

Source : Director General of Commercial Intelligence and Statistics, Calcutta.

ess to supplies, etc. which were ng sought to be introduced in the bal trading system by developed ntries. "These endeavours to intro- ce arbitrariness and discrimination the global economic system and to dermine the solidarity of the deve- ping countries should be rejected", added.

these circumstances, the Minister id that the developing countries ould have to devote more and more their energies towards achieving eater collective self-reliance at gional and global levels particularly the field of trade. In this context ndia was happy to note that trade Ministers of ESCAP region were able, their Delhi meeting in August st year, to adopt a programme f action for promotion of intra- egional trade and to take advantage f the fast-growing productive and bsorptive capacities of the markets n the region for promoting trade nd economic development. The ESCAP secretariat had a special res- onsibility to ensure that the momen- um generated by the endeavours owards intra-regional trade expansion t the Delhi Conference is not allowed o slacken. India was convinced hat economic cooperation among deve- oping countries themselves should be an essential element in the new inter- national development strategy.

Commenting on the process of for- mulating the international development strategy for the Third United Nations Development Decade, the Minister held that the developing countries of the world which met at Arusha last had been able to forge a united stand on the vital issues facing them in spite of the diversity of their economies and their problems. India felt that the regional contribution of the ESCAP to the International Development Strategy should reflect the concerns expressed in the Arusha decleration.

Urging concentrated efforts on the part of all countries in facing these issues, the Minister said that the 35th Session of ESCAP was meeting at a crucial moment in the history of international cooperation and development. We ware now in the last year of the Second UN Development Decade and were now in the process of formulating the strategy for the Third Development Decade. The Tokyo Round of Multilateral Trade Negotiations has also entered the final phase. UNCTAD V would be meeting within a couple of months at Manila. The UN Conference on Science and Technology for Development is scheduled to be held later this year and UNIDO III will be held in New Delhi early next year. The deliberations in the current session of the ESCAP would thus have an important bearing on international developments in the coming decade.

Industrial Growth and Diversification

Mineral Production Up

The total value of mineral production excluding the value of atomic minerals, was Rs. 14,479 million in 1978 as against Rs. 14,153 million in 1977, according to the Indian Bureau of Mines. The index of mineral production (quantum) during the year increased to 143 from 141 in 1977.

Among the important metallic minerals the output of bauxite increased to 1.7 million tonnes during 1978 from 1.5 million tonnes during the previous year. The production of zinc concentrates also rose to 66,000 tonnes from 46,000 tonnes during 1977. The output of iron ore, however, was 10 percent less during 1978 due to lower off-take for exports and the closure of Bailadila floatore mine of the National Mineral Development Corporation (NMDC). Production from captive mines was regulated according to requirements in steel plants. The production of copper ore was affected by strike in the mines of Khetri copper complex, shortage of explosives and power restrictions. The output of lead concentrates at 17,000 tonnes druing 1978 remained at the level of the previous year.

Among the principal non-metallic minerals, the production of apatite and phosphorite together increased by 6 percent to 781,000 tonnes in 1978 from 740,000 tonnes in the previous year. Magnesite production rose by 4 percent to 42,000 tonne- during the year. The output of lime- stone stood at 30 million tonnes during the year 1978.

Iron ore, copper ore, manganese ore and gold were the most important constitutents of the metallic minerals and among the non-metallic minerals were limestone, apatite, phosphertie, dolomite and magnestie. Mineral fuels accounted for 74 percent of the total value of mineral production, metallic minerals for 13 percent and non-metallic minerals, including minor minerals, for 13 percent.

The production of coal including lignite increased to 105.2 million during 1978 from 103.9 million tonnes in the previous year. The production of petroleum (crude) also increased to 11.3 million tonnes during 1978 from 10.2 million tonnes in 1977.

Report of Commitee of Industrialists

The Committee of Industrialists appointed by the Union Government in October, 1978 for reviewing and suggesting improvements in procedures relating to industrial approvals and other allied matters has suggested that the core sector of the economy should be de-licensed, and, the industrial licensing should be exempted, for all units, for projects with value of assets upto Rs. 150 million.

The Committee has also recommended that the limit of Rs. 200 million for MRTP companies should be raised to Rs. 450 million. Similarly, dominant undertakings should be re-defined as those with more than one third of the market share and with value of assets of Rs. 30 million or more.

The Committee submitted its report to the Government recently.

Other recommendations of the Committee are that an automatic annual growth of 5 percent compound rate or 30 percent for a five year period in the registered and licensed capacity should be permitted, without any conditions, to all industries including dominant undertakings, and 'horizontal proliferation' by companies irrespective of whether they are MRTP companies or not, being a powerful instrument for the diffusion of economic power, should be encouraged.

To eliminate delays in processing of industrial licence applications, the Committee has suggested that screening committees should be appointed in each administrative Ministry and the decisions of these committees should be communicated to the applicant within 30 days. After the letter of intent is issued, no new conditions should be set by any agency either associated with the relevant Licensing Committee or by any other agency, except the financial institutions.

It has also been proposed that a Licences Reviewing Committee should be set up as a sustaining mechanism ensuring continuous inter-action between Government and industry, and, one centralised body should deal with issues raised by major projects instead of the present three Licensing Committees.

The Committee views the current division of industries into 'boxes' as not conducive to industrial growth and wants it to be discarded. It has said that there is necessity of inducting into the industrial licensing system, a mechanism for continuously updating, after every three years, the 'cut off points' into which the various 'boxes' of Indian industries are currently divided.

It also opines that the industrial licensing must not be used as a multi-purpose mechanism for achieving the socio-economic goals.

In the vital areas of promoting research and development of exports, of anti-polution schemes and also of ancillarisation, rewards could be given to industries in the form of permitting automatic expansion of capacity of existing projects.

The Report of the Committee is under examination of the Government and action will be taken on such of the recommendations as are finally accepted by the Government.

Reduction in Duties

The Government of India (Department of Revenue in the Ministry of Finance) has completely exempted basic customs duty on PVC resins.

The Government had been considering the representation from the trad industry that PVC resins, whi a versatile industrial raw mat is short in the country and w need to be imported in large quan for making it available to the ind at reasonable prices. It was represented that the import duty high and should be scaled down.

Considering the shortage in su of PVC resins and consequently need for import and that the prices abroad are quite high, Ministry of Finance (Departmen Revenue) has abolished the b customs duty of 100 percent on imp of PVC resins. Now, only the auxili duty of five percent and the coun vailing excise duty of 42 percent be leviable. Thus, the cumulat burden of import duty stands redu to 49.1 percent *ad valorem* on CIF, from the statutory level of 21 percent *ad valorem*.

The relevant notification takes eff from March 15, 1979 and will valid until August 31, 1979.

The Union Government has also co pletely exempted the countervaili excise duty on imported aluminiu foils.

In view of the temporary shorta in the country of plain aluminiu foils which are used for strip packin of drugs and medicines the impo of the same is being allowed fro abroad. Considering the high CI prices abroad and the need to mak available the plain aluminium foi of the thickness 0.02 mm to 0.0 mm to the pharmaceutical industr at reasonable prices so that the fina prices of drugs and medicines to th consumers do not go up, the Ministr of Finance (Department of Revenue has completely exempted the addi tional duty of 32 percent *ad valorem*

viable on these foils subject to certain nditions. The relevant notification kes effect from March 15, 1979 and ill be valid u..til June 30, 1979.

elf-Reliance in Steel Technology

To keep abreast of the rapid developments in the steel making technology ow taking place, sustained efforts re being made for process improvements, development of indigenous and daptation of new technology, to nable the Indian steel industry to etain its competitiveness with similar ndustries in other countries. The Union Minister for Steel and Mines, Mr. Biju Patnaik, said in the Rajya Sabha recently that a Research and Development Centre for Iron and Steel had been established under the Steel Authority of India Limited (SAIL) for this purpose.

At the same time, since it is necessary to maintain close links with technological developments in the more advanced countries, Government of India have also entered into agreements with the Soviet authorities for the preparation of programmes designed to introduce technological improvements and innovations at Bhilai and Bokaro Steel Plants to achieve higher productivity from the existing facilities at minimal cost. Some of the important schemes involving sophisticated and improved technology under execution and consideration relate to experimental coal dust injection in blast furnace at Bhilai, conversion of one 500-tonne open hearth furnace to twin bath furnace; installation of an experimental bottom blown oxygen converter at Durgapur Steel Plant ; modernisation of the hot strip mill at Rourkela Steel Plant ; installation of facilities for production of steel for cold rolled grain oriented (CRGO) silicon sheets ; and adoption of desulphurisation process for hot metal at Rourkela.

The Minister informed the House that the Indian steel industry had achieved a fair measure of self-reliance in different areas connected with the steel industry, such as the preparation of feasibility studies, detailed project reports, design and consultancy work, project engineering including infrastructural facilities, plant and equipment manufacture, investigation of raw materials, training of manpower as well as development of management competence, apart from efficiency in operation and maintenance.

Paper Production To be Stepped Up

The Union Minister of Industry, Mr. George Fernandes has asked his Ministry to prepare a policy paper, for the consideration of Cabinet, on a package of measures to increase paper and newsprint production and to streamline the distribution system for paper.

An internal meeting of Ministry officials was called by the Industry Minister recently to review the matter.

At the meeting it was indicated that the level of capacity utilisation during the current year had been 78 percent for the industry as a whole. While some units had a capacity utilisation of over 100 percent, others had not been performing so well. The Minister directed that the problems being faced by the latter should be immediately identified and all assistance provided to them to enable them to increase capacity utilisation. This would be particularly applicable to the smaller units whose performance was being closely monitored by the Directorate General of Technical Development. Other possible measures to increase production in the short run would also be examined.

A review of the addition to capacity in this industry revealed that no large paper manufacturing units have come up in the last several years, although smaller units have gone into production during this period. It is for the first time in 10 years that three large units are expected to go into production by the end of the current year ; the Rayalaseema Paper Mills with a capacity of 40,000 tonnes per annum, the Bhadrachalam Paper Mills with a capacity of 50,000 tonnes per annum and the Nagaland Paper Mills with a capacity of 33,000 tonnes per annum.

The Minister directed that every effort should be made to speed up work on the projects of the Hindustan Paper Corporation to ensure that they are commissioned at the earliest possible date.

The demand projections for the country's future requirements of paper have generally been assessed on the basis of a 7 percent rate of growth per annum. The Minister of Industry observed that considering the fact that per capita consumption was abnormally low, and in the context of the accelerated requirements to be generated by the promotion of adult education, mass literacy and other educational programmes this has been underestimated and it would be more realistic to plan for at least a 10 percent rate of growth demand. This would require, over the next two years, an increase in production capacity of at least 1,00,000 tonnes per annum. Considering the present situation that sufficient investment was not forthcoming, while there was need for new projects to be taken up, special efforts would have to be made to expand capacity particularly in the public sector. Various constraints such as shortage of raw materials,

raising of financial resources and adequate return on investment were discussed.

The Industry Minister directed that a package of measures should be quickly formulated identifying the needs of the industry to ensure that the country's requirements of paper in the next decade are fully met. In fact, he felt that considering the competitive cost of Indian paper it should be possible to even export paper provided the necessary production capacity is created. The Minister directed that this package of measures should be finalised within the next fortnight so that early decisions could be taken by the Government.

It was also decided that the distribution mechanism should be quickly examined to identify the loopholes which need to be plugged to ensure that supplies reach the consumer at reasonable prices. In this connection, Mr. Fernandes would be addressing all State Governments to study the experience of the Karnataka State Government, who are operating a successful distribution system for paper. Under this scheme the conversion of concessional paper into exercise books is done under the overall supervision of a State Government agency, which arranges to distribute the finished product at approved rates to the student community, thereby preventing any misuse or leakage of the paper.

It is expected that with steps to increase capacity utilisation, imports and improvements in the distribution system, most of the present gap between demand and supply can be met immediately and prices brought under control.

Ammonia Production Starts at NFL Plant

The Rupees 1750 million fertiliser plant of National Fertilisers Limited (NFL) at Panipat has started regular production of Ammonia. The plant can produce 900 tonnes of ammonia per day or 1500 tonnes per day of urea.

Earlier, in January this year, trial production of Urea Prills had started at Panipat where physical work on the project had started in February, 1976. The Panipat plant of NFL will add 2,35,000 tonnes to the total Nitrogen capacity in the country which at present stands at 3.259 million tonnes. There are at present 11 large size fertiliser projects under implementation including the Panipat Project, which together will increase the Nitrogen capacity to 5.3 tonnes per year by 1981-82.

With the implementation of new projects, the installed capacity for phosphates also will go up from 1.08 million tonnes at present to 1.30 million tonnes by 1981-82.

During 1978-79 about 2.2 million tonnes of Nitrogen and 0.76 million tonnes of Phosphates are expected to be produced.

HZL to Supply Phosphoric Acid to IFFCO

Hindustan Zinc Limited (HZL) will supply 20,000 tonnes of phosphoric acid per year to the Indian Farmers Fertilizers Corporation (IFFCO), according to a 10-year sales agreement between HZL and IFFCO, concluded last August. During the first year of the contract, the Company will supply 17,000 tonnes to IFFCO.

IFFCO is to arrange road and rail transport for lifting the acid from the Debari Zinc Smelter of the Hindustan Zinc Limited.

The Phosphoric Acid Plant of HZL at Debari, near Udaipur, is t trial runs since the last week of uary, 1979. The installed cap of the plant is 26,000 tonnes per a and it is likely to attain full cap in three years. During the first of its operation, the plant is expe to produce on an average of a 52 tonnes per day and 1,300 to per month on an estimated wor of 300 days per year.

Railways Passenger and Freight Traffic

The approximate number of passen booked during the period April, I to January, 1979 totalled 3,028 mil registering an increase of 116.55 mil (4 percent) over the prevsious ye level of traffic. During this peri both suburban and non-suburban ffic showed an upward trend, former by 5.34 percent and latter 2.39 percent over the correspond period of the previous year.

The approximate number of passen booked in the month of Janua 1979 was 295 million, an incre of 9.20 million (3.22 percent) compa to January, 1978. Both suburb and non-suburban traffic registered increase, the former by 4.34 perce and the latter by 1.64 percent ov the corresponding month of last ye

Cumulative total revenue-earni tonnage lifted by the Railways duri the period April, 1978 to Janua 1979 was 164.25 million tonnes, 9. million tonnes less than the corre ponding figures of the previous yea

Improved Performance of NPCC

The National Projects Constructio Corporation (NPCC), a public unde taking under the the Union Minist of Energy, has shown substantial im rovement in its performance. Th

poration achieved an out-turn of 193.24 million during 1977-78 as inst Rs. 178.17 million during 6-77 and Rs. 131.55 million during previous year.

e Corporation earned a profit of 764,000 in 1977-78 as against 504,000 in the previous year. nong others, heavy interest liabilties Rs. 7.43 million on cash credit and loans, reduced the profit margin of Corporation considerably. The rporation has however, been able reduce the accumulated losses m Rs. 39.20 million as in March 72 to Rs. 20.10 million in March 78. The Corporation also paid nus amounting to over Rs. 1.47 illion for 1977-78, in accordance with e policy of the Government.

he Government is actively considering oposals put forward by the Corporaon to enhance its capital base.

1978-79, the Corporation secured ders worth Rs. 80 million for setting p water conductor at the Singrauli per ther mal power station. For the rst time in January this year, the Corporation secured work abroad, in raq by an agreement with the Engieering Projects (India) Limited for ie construction of grain silos worth early Rs. 130 million. The Corporaion is at present executing works in our hydro electric central projects at Baira Siul, Salal, Loktak and Lower Lagyap and the Singrauli Project. In ddition, the Corporation is also xecuting works in the World Bank inanced Godavari barrage project nd Totladoh dam, and the tube ailway project in Calcutta.

Replenishment Scheme for Goldsmith Coops

Cooperative societies of goldsmiths will be among the beneficiaries of the Replenishment Scheme in respect of the export of gold jewellery. This was stated by Mr. Arif Baig, Union Minister of State for Commerce, in Rajya Sabha recently. He said that with a view to boosting exports of gold jewellery, the scheme for replenishment of gold against such exports was introduced in August, 1978. Gold, under the Scheme, was made available at near prevailing international price. The Replenishment Scheme, he hoped, would stimulate export of gold jewellery and would help small jewellers/ goldsmiths.

The Minister added that the State Trading Corporation of India had formulated schemes for helping the jewellery exporters by marketing support and design backups. Efforts were being made to involve small jewellers also through the State Small Scale Industries Corporations.

Science and Technology

NPC Seminar on Technology Transfer

Mr. C.G.K. Reddy, Chairman of National Productivity Council (NPC) said recently that before importing any technology into India, it must be made sure that it would be desirable and beneficial for the country. Any technology for India had to be labour-intensive and capable of being decentralized, he said, but added that this did not mean that a technology otherwise relevant to the country's needs should be rejected outright.

Mr. Reddy was inaugurating a two-day seminar on Transfer of Technology and Patent System organised by the National Productivity Council and the Ministry of Industry. About 40 participants from the Planning Commission, Ministry of Industry, Directorate General of Technical Development, Department of Science and Technology - National Research Development Corporation, Ministry of Finance, Department of Patents, Designs and Trade Marks, Council of Scientific and Industrial Research, Industrial Development Bank of India, India Investment Centre, Public Sector Undertakings and NPC attended the seminar. Among the faculty for the seminar was Prof. G. Wilner, UNACAD Consultant fron New York.

Earier, Mr. George Fernandes, Union Minister of Industry, called upon the National Productivity Council to relate its activities to the new Industrial Policy which lays emphasis on small and cottage sectors in order to create greater employment opportunities. The Council, he said, should make a break with the past, particularly the culture of the large houses, and reorient itself to the new economic and industrial changes that are taking place in the country.

Several areas were being reserved for the small and cottage sectors and large houses were to be phased out of these and that was bound to give rise to a host of problems like those of management, organisation, distribution etc. The Council, he said, should apply its mind to find solutions to the problems and thus play on effective role in translating the Government's policy objectives into action.

Mr. Fernandes was inaugurating at New Delhi recently the first meeting of the reconstituted NPC of which he is the President.

The Industry Minister said that he would like the Council to take on also the responsibility of identifying problems faced by the public sector undertakings and the departmentally run

organisations, and, suggest ways to improve their functioning in order to ensure the best utilisation of resources. In this connection, he referred to the Madhya Pradesh and West Bengal units of the National Textile Corporation which were incurring losses while other units were making profits.

He said that NPC could also use its expertise to serve as a sort of "fire-fighting" organisation and suggested that the congestion at Bombay port and the functioning of Bihar and West Bengal State Electricity Boards could be subjects of study.

The Minister wanted the Council to explore the possibilities of making the productivity movement an essential part of trade unionism. "Productivity" he said was to make the man on the shop floor to relate himself to the larger national perspective, and, the Council could consider how it could be done.

He felt that various seminars and conferences that were held needed monitoring of the follow-up of their recommendations and suggested that the the Council should have a permanent mechanism to study the effects and fall-outs of these meetings.

India's First Geosynchronous Satellite

India's first geosynchronous satellite with an important meteorological pay-load will be launched in 1981. The satellite will be designed to collect meteorological data from a number of stations spread over the country. This was stated by Mr. S.M.L. Bhatnagar, Secretary, Union Ministry of Tourism and Civil Aviation while inaugurating a symposium on Monsoon prediction at New Delhi recently.

The Secretary said that this satellite will be used for improving early warning system against natural disasters, such as tropical cyclones. Coupled with MONEX, the development of geosynchronous satellite will provide the meteorologits the much-needed data to improve their forecasting capability, he added.

Referring to the Monsoon Experiment (MONEX) which is to begin in May this year, the Secretary said that this experiment was of considerable importance to India because the country entirely depended on Monsoon rains to grow food and other crops. India's cropping pattern was sensitive to the performance of monsoon and frequently suffered from its vagaries, the Secretary added.

The study of physical process that generates the monsoon and a comprehensive field experiment will improve the country's capability to predict the monsoon correctly, he stressed. This experiment, which was being organised with the active cooperation of many countries, might throw up certain features of monsoon which needed to be monitored every year. Recent advances in satellite technology could provide the means of monitoring such features.

The Secretary said that he was told that after termination of the Monsoon Experiment, the International Community of Meteorologists will turn its attention to the study of climate and long range prediction of weather. This was of great importance to India. "If we could anticipate the likely performance of monsoon rains during the four months, from June to September, it will pay us rich dividends in the future". the Secretary observed.

Mr. Bhatnagar urged upon the scientists to see how the MONEX data could help improve the long range forecasts. At present forecast of the likely of monsoon every year is ba statistics, but these have thei limitations. It will indeed be a able achievement if efforts were to discover physical reasons to e why the monsoon should beha way it does. He asked the sci to consider, whether imbalan the earth atmosphere radiation b had any impact on the monsoon. theory was an important aca pursuit, but the best results achieved when the results of t found practical application fo welfare of the farmer, the Secr added.

Trade and Economic Relations between Ind and FRG

Trade and economic relations bet India and Federal Republic of many (FRG) have been consider strengthened over the years. I has received FRG's cooperation only in the industrial sector but in agriculture and in the training technicians. The Vollrath Sche Rourkela Steel Plant, Mandi Proj and many industrial ventures cove a wide range of industries are an testimony to the close and frien relations existing between India the FRG.

India entered into a trade agreem with FRG in 1955 which was amen by exchange of letters on April 1957. A Protocol was also added October 30, 1959 to this agreem which provides that for securing eff tive implementation of the terms of t agreement, a Commission consisting the representatives of the two Gover ments should meet on the request either party at a time and place whi was to be agreed upon.

The said Commission has met only twice since 1959-once in April 1960 and second time in May 1963. Both the meetings were held in Bonn.

FRG has emerged as India's biggest trading partner in West Europe after UK. The trade with FRG has increased significantly during the last few years. The total trade turnover between the two countries has gone up from Rs. 1390 million in 1970-71 to Rs. 5,300 million in 1976-77. There have been significant increases both in Indian exports to FRG and in Indian imports from that country. The table below indicates the import-export trade figures for the last few years:

(Rs. in million)

Year	*Exports*	*Imports*	*Total*	*Balance*
1971-72	374.0	1270.3	1644.3	(—) 896.3
1972-73	620.2	1725.8	2346.0	(—) 1105.6
1973-74	867.9	2067.9	2935.8	(—) 1200.0
1974-75	1061.7	3163.9	4225.6	(—) 2102.2
1975-76	1179.1	3699.6	4878.7	(—) 2520.5
1976-77	2243.4	3056.4	5299.8	(—) 813.0
April 1977-Feb.1978	2233.0	5075.4	7308.4	(—) 2842.4

Indian exports to FRG showed a steady increase up to 1976-77 when it reached Rs. 2243.4 million as against Rs. 11791.1 million during the previous year. However, imports from FRG have shown a faster increase specially in 1974-75, when it reached Rs. 3163.9 million as against Rs. 2067.9 million during the previous year and in 1977-78 when the total imports during eleven months of the year amounted to Rs. 5075.4 million as against Rs. 3056.4 million during the previous year pointing to the emergence of FRG as the most competitive supply source. The balance of trade has been persistently adverse against India. Although the deficit narrowed down to Rs. 813 million during 1976-77, the gap has again substantially widened to Rs. 2,842.4 million during eleven months of 1977-78. It is a notable feature that this deficit has persisted in the case of India's trade with FRG only while a surplus trade balance has been reached with the other member countries of the EEC.

During 1976-77, imports from the FRG declined as wheat imports dwindled very much during this period and similarly imports of nitrogenous fertilisers, semi-finished iron products, paper and paper boards have come down considerably. On the other hand substantially increased imports of vegetable oils, machine tools including rolling equipment, pumps and compressors, power driven vehicles including parts and other chemicals and plastic products took place during 1976-77. As already mentioned, the imports have gone up substantially during 1977-78. During the eleven months of 1977-78 the imports have reached Rs. 5,075.4 million, which is far in excess of the levels of 1975-76 and 1976-77. Imports of machinery and transport equipment during April 1977 to February, 1978 were of the order of Rs. 2,302 million. Other important items of import during the same period were vegetable oil (Rs. 1035.1 million), iron and steel (Rs. 338.8 million), organic and inorganic chemicals (Rs. 262.7 million), fertilisers (Rs. 259.5 million) and wheat (Rs. 103.4 million).

The exports from India to the FRG showed steady increase up to 1976-77. Major exports to the FRG consisted of clothing, woollen carpets and druggets, cotton textiles, engineering goods, leather and leather manufactures and tea. Substantial increases were registered in all these exports, in 1976-77 over 1975-76: clothing from Rs. 160.6 million (1975-76) to Rs. 562.7 million (1976-77), woollen carpets and druggets from Rs. 191.4 million to Rs. 325.5 million, cotton textiles from Rs. 92.9 million to Rs. 226.7 million engineering goods from Rs. 121.9 million to Rs. 177.6 million, leather and leather manufactures from Rs. 102.3 million to Rs. 151.5 million, and tea from 66 million to Rs. 84.5 million. There were silver exports during 1976, Exports of iron ore, however, declined in 1976.

However, exports from India to the FRG during 1977-78 have not increased and have remained at the same level

as in 1976-77. During April 1977 to February 1978 principal items of exports from India to FRG were handicrafts (Rs. 439.6 million), apparels (Rs. 353.5 million), other textile articles (Rs. 399.1 million), coffee (Rs. 198 million), engineering goods (Rs. 178.8 million), leather and leather manufactures (Rs. 174.6 million), tea (Rs. 169.1 million), pearls and precious and semi-precious stones (Rs. 72.3 million), crude animal and vegetable materials (Rs. 67.5 million), and cotton piece—goods-millmade (Rs. 51.5 million).

According to the latest figures, exports from India to FRG during the period from April 1978 to October 1978 amounted to Rs. 1,819.1 million while imports from FRG to India during the same period totalled Rs. 3,109.9 million resulting in a trade deficit of about Rs. 1,290 million. The principal items of exports are: other garments and made-up goods of cotton, wool and animal hair materials (mainly carpets), leather and leather goods, tea, precious and semi-precious stones, handicrafts (brasswares), spare parts for power driven vehicles, aircraft etc., flax, hemp, jute, other garments and made-up goods of silk and rayon. Exports in the first seven months of the current financial year are approximately the same as they were in the first seven months of the last financial year. There is no significant change in the trends of export performance of particular commodities. However, exports of garments and made-up goods and cotton which is the number one export commodity, have become marginally higher in the first seven months of this financial year. The items whose imports from FRG to India are considerably higher during the current year as compared to the last year are copper, crude and alloys, iron and steel sheets and plates, machine tools including rolling mill equipment, other machinery, alluminium rods and sheets, iron ore, electro technical goods, rayon and synthetic fibre yarn, nitrogenous fertilizers and pharmaceuticals preparations.

According to West German statistics, between 23 percent-24 percent of FRG imports of Indian products/goods are effected indirectly.

The study of the FRG market reveals that there are potential markets for the following:

1. Electronic components and finished products like auto radios, antennas etc.
2. Hand knotted woollen carpets.
3. Finished leather and leather products like garments, hand-bags, wallets and saddlery equipment besides shoe and shoe components.
4. Selected engineering products.
5. Chemicals particularly dyes and dye intermediates and pharmaceuticals, blood grouping serum etc.
6. Food items like canned shrimps, canned fruits, mangoes, fruits and mango juices etc.

It may be mentioned that since there is very high cost of production in FRG and also the labour costs there have increased very much, there is a unique opportunity for increasing India's exports of these products where the element of labour cost is higher.

Between 1957 and March 1978, as many as 934 cases were approved for collaboration between Indian firms and firms of FRG. In view of high cost of production due to labour costs etc. in FRG, there is great potential for joint collaboration between Indian and FRG in India.

FRG has been setting up a large number of industrial projects in various countries of the world. There are good possibilities of copperation be Indian and FRG firms in this which could, inter-alia, take the f ing forms:-

1. Indian firms capturing con for items to be procured by countries from the United made available by FRG to countries under its capital assis programme.
2. Indian and FRG firms tender jointly in third coun
3. India could provide skilled tec personnel for projects being har by FRG in third countries.
4. FRG could set up plants in I the entire products of which c be exported to third countri
5. In the consultancy services, the of two countries could join hands.

A good beginning has been made Engineering Projects (I) Ltd., (I who are collaborating with M/s. C. Otto by export of plant and ma nery for coke oven and bye prod plant for Matalavski Kambinet jezers, Sisak, Yugoslavia. The is to supply material such as struct steel works and castings oven machi refractory material worth Rs. million.

Prospects are being investigated w leading FRG firms like Thys Salzgitter, Klockner and Co. Krup Lurgi Gessellschafen Passawantwe Siemens to secure major sub-contra ing work in third countries. The ar for such "third country cooperatio between West German and Indian fi include steel projects, petro-chemi projects, jute mill, cement plar power-generating equipment etc. So West German companies have enou information about projects being e cuted in third countries under bilate aid from FRG. Since these proje have to bid against internatio

tenders, efforts are made to interest the FRG companies in putting in a joint offer/bid with Indian companies which might prove competitive in securing the execution of these projects.

India has been participating in a number of fairs and exhibitions in West Germany every year. The following are the major fairs in which India participated during the year 1978:

1. Heimtexil '78

   International Trade Fair for Home Textiles and Household Textiles, Frankfurt

2. International Hardware Fair, Cologne
3. IKDFA, Munich
4. GDS (Shoe Fair) Dusseldorf
5. IFMA (Bicycle and motor cycle exhibition) Cologne
6. Automachanika (Fair for equipment for motor car, workshop and service stations, motor car spare parts and accessories), Frankfurt
7. Photokina (Fair of photography, photo, cine, audio vision equipment) Cologne
8. Spoga (Sportsgoods Fair) Cologne
9. Frankfurt Book Fair
10. Third Offenbach Leather Fair
11. Electronica'79 (International Trade Fair for components and assemblies in electronics) Munich
12. Leather Fair, Pirmasens
13. Private Indian participation by individual companies also took place in the following fairs:

(a) Heimtextil '78
International Trade Fair for Home Textiles and Household Textiles, Cologne.

(b) International Furniture Fair, Cologne.

(c) International Housewares Fair, Cologne.

(d) International Hardware Fair, Cologne.

(e) Inhorgenta, Munich.

(f) International Men's Fashion Week, Cologne.

(g) Frankfurt International Fair, Frankfurt.

(h) International Trade Fair for Children and Young People, Cologne.

(i) 116th Igedo, Dusseldorf.

(j) 117th Igedo, Dusseldrof.

The Trade Development Authority organised a Buyers-Sellers Meet at Cologne from 10-14 October, 1978. The Commerce Minister presided over the function and the German Minister for Technology Dr. Volker Hauf inaugurated the Meet. Ninety eight firms participated and the products range covered automabile ancillaries; bicycle components; electrical equipment and apparatus, castings and forgings; hand tools, industrial fasteners, chemicals and pharmaceuticals; wooden furniture, leather garments and goods, home furnishing and carpets, readymade garments, handicrafts; sports goods, imitation jewellery and plastic goods.

In May 1978, "India Fortnight" was organised in M/s. KARSTADT one of the leading departmental stores in the FRG. A number of non-traditional items and consumer goods were displayed. These included food products (tinned seafood juices, spices etc.), sports goods (footballs, tennis rackets, hockey sticks), engineering goods (small/hand tools, do-it yourself kit, locks and padlocks, bicycles and parts etc), electronic equipment (such as main adaptors, speakers, amplifiers, car-radios). Many individual teams of this departmental stores visited India to choose items for display.

A prominent departmental store chain, KAUFHOF, mounted a promotion of Indian carpets at Cologne from October 13 to November 11, 1978 in collaboration with Handicrafts and Handlooms Export Corporation, Hamburg. For this promotion they had bought carpets worth DM 350,000. At the promotion iteslf sales mounted to DM 1 million. Carpets are already doing very well and this promotion added to the momentum of increasing exports of this item. They were greatly encouraged by this promotion and have indicated that more such promotion may be held.

With the booming economy of the FRG and its acquiring a prominent position in world trade, economic relations between India and the FRG have become all the more bright. It is hoped that as the years role by, the bonds of friendship existing between the two countries would grow from strength to strength. □

Regd. No. D(

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Milan International Fair, Milan (Italy)	April 14-23, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	May 24-28, 1979
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
International Trade Fair, Maputo (Mozambique)	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Zagreb International Autumn Fair, Zagreb	September 14-23, 1979
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25-November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March, 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

News Highlights

Upward Trend in Exports

India's total exports including re-exports during April, 1978 to January, 1979 are provisionally estimated at Rs. 44,158.1 million as compared to Rs. 43,343.6 million recorded during the same period of 1977-1978, thereby indicating a rise of 2 percent.

Exports of Heavy Industry Units Up

The total value of export orders secured and executed by the public sector units under the Department of Heavy Industry, Union Ministry of Industry, during the period of April 1978 to January 1979 amounted to Rs. 2267.3 million and Rs. 1783.8 million respectively. The value of export orders pending with the various public sector units at the end of January, 1979 stood at Rs. 8465.4 million.

New Export Policy

Under the export policy for 1979-80, exports of barytes and video-taped cinema films including cassettes have been canalised. The exports of kyanite with alumina content of 50 percent and above, silver salts and chemicals, natural rubber, rosewood in log and sawn form and

(*Contd. on page* 2)

Export Performance and Potential

New Export Policy

The Union Minister of Commerce, Civil Supplies and Cooperation, Mr. Mohan Dharia told the Lok Sabha recently that many of the export items are not under control and can be freely exported. However, in respect of those which would be subject to Export Control, a Public Notice is being issued separately setting out the itemwise policies applicable from March 30, 1979 upto March 31, 1980. Some of its salient features are :—

(a) Barytes stands fully canalised through the MMTC;

(b) Export of video taped cinema films including cassettes stands canalised through the Indian Motion Pictures Export Corporation;

(c) Kyanite with alumina content of 50 percent and above is banned for export ;

(d) As a corollary to the ban imposed on the export of silver recently, exports of silver salts and chemicals have been banned. Manufactured articles of silver will be allowed for export only in substantially value added form and subject to suitable conditions.

(e) Natural rubber and rosewood in log and sawn form are banned for export ;

(f) Streptomycin formulations are banned for export having regard to the domestic demand and indigenous production ;

(g) Export of vintage cars will be allowed, on merits; and

(h) In the case of meat, arrangements are being made before the end of June 1979 to see that animals required for the purpose are available to the exporters only through designated State agencies.

streptomycin formulations have been banned. The import policy for 1979-80 will be announced on May 1, 1979. This was announced by the Union Minister of Commerce, Civil Supplies and Cooperation in Lok Sabha recently.

Indo-Italian Trade Up

The trade between India and Italy crossed the Rs. 2,300 million mark upto November 1978, which was roughly Rs. 170 million higher than the level of trade achieved in 1977, according to a commercial report of the Embassy of India, Rome. The trade between the two countries, is expected to cross the Rs. 2,500 million mark during 1978, achieving nearly 20 percent growth over the previous year.

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Material received from various sources is published in this weekly in the interest of export promotion. It does not necessarily reflect the views of the Government of India. No permission is required for reproduction of the material from this journal.

In the meanwhile, exporters will purchase meat from the
politan mandis only after the daily local needs are fully me

The Minister said that to provide better stability to the import poli
Government has decided to announce the new policy on May 1,
To cover the period between April 1 to May 1, he listed certain m
to ensure continuity in production and foreign trade.

The Minister said that in the period April, 1978-March, 1979, a subs
revision of the import policy and the connected procedures was mad
pared to the previous three decades. The policy currently in force is i
with the national objectives of increasing agricultural and indu
production with adequate protection to producers, building up
structure and technology, generating employment and making ava
essential goods for mass consumption.

He added that while making the statement in the House on April 3,
when he announced India's trade policies and procedures for the cu
year, he had emphasised the need to impart stability to the po
This has been the Governments approach in formulating the polic
the coming year The representations received by Government in re
to the new policy have, by and large, suggested further simplificati
the existing procedures, provision of adequate protection to the ind
and agriculture and extension of increased facilities for export pro
tion. Furthermore, the new dimension given to the policy in the cu
year has necessitated a review of the arrangements made for giving i
pretation and clarifications to the import policy, particularly in reg
to the items for import under Open General Licence.

In order that adequate and careful consideration is given to the var
suggestions and representations made and, as stated earlier, with a v
to providing better stability to our import policy, Government has deci
to announce the new import policy on May 1, 1979.

To assist the continuance of the country's production and foreign tr
in this period, it has been decided that :—

(i) The provisions of the current policy for the import of ite
under Open General Licence which expire on March
1979 will be extended upto April 30, 1979;

(ii) All exports made upto April 30, 1979 will qualify for Impo
Replenishment Licences in terms of the current policy ;

(iii) Advance Licences will continue to be granted upto April 30
1979, in accordance with the current policy;

(iv) The existing provisions for the import of emergency spar
will continue ;

(v) Canalising agencies will continue to supply the respecti
items in accordance with the earlier registrations; and

(iv) Persons, who need to import any requirements under extra
ordinary circumstances during this period, may apply to th
Chief Controller of Imports & Exports, New Delhi.

Widening Areas of Indo-Polish Economic Cooperation

The Sixth Session of the Indo-Polish Joint Commission for Economic, Trade, Scientific and Technical Cooperation was held in New Delhi from March 19 to 24, 1979. The Indian delegation was led by Mr. P. Ramachandran, Union Minister of Energy and the Polish delegation by Mr. W. Lejczak, Minister of Mining of the Polish People's Republic.

The implementation of the recommendations of the Fifth Session of the Joint Commission held in Warsaw in October 1977 was reviewed at the plenary meetings and the progress was found to be satisfactory. The Joint Commission constituted itself into five Working Groups which covered subjects such as trade exchanges, shipping and fisheries, mining and mining machinery, industrial cooperation, chemical industry and science and technology. The Working Groups agreed upon time-bound action oriented programme of cooperation between India and Poland.

In the Protocol of the Sixth Session, which was signed recently, it was agreed that in the field of trade exchanges, both sides should encourage greater contacts between Indian and Polish firms and enterprises under the aegis of Indo-Polish Chambers of Commerce and Industry. The Indian side laid special emphasis on their requirements of Urea and sulphur and the Polish side emphasised the need for increasing their exports of engineering goods to India.

India and Poland have had a long standing cooperation in mining, particularly in coal mining. During the Sixth Session, discussions for further expansion of the cooperation in this field took place. A contract for sinking two shafts in the Jharia coal field has recently been concluded.

In the area of industrial cooperation, the main sectors identified for the expansion and furthering of cooperation related to woolllen textile machinery, machine tools, electronic components, components for the automotive industry, construction equipment, mining machinery, components for power projects and design and construction of different kinds of vessels.

A new dimension of industrial cooperation between the two sides has been identified for promotion of the small scale sector in India in fields related to manufacture of textile machinery-components, handlooms, electronic items, spares for coal mining equipment and agro-based industries.

Several projects of cooperation have also been identified in the chemical industry during the Sixth Session These relate to transfer of technology in the manufacture of teflon, furfural from bagasse, cyanuric chloride, gibberilic acid, hydrogenation catalyst and drugs and pharmaceuticals.

The Programme of cooperation in Science and Technology for the period January 1979 to December 1980 was also signed recently.

The Working Group on Chemical Industry for the Sixth Indo-Polish Joint Commission for Economic, Scientific and Technical Cooperation has been able to identify a wide range of possibilities for mutual collaboration between India and Poland in the field of chemical industry.

At a recent meeting the Working Group in New Delhi to sign agreed minutes of discussions, the two sides expressed the hope that an earnest effort would be made to pursue and concretise proposals which came up during discussions between the two countries.

The agreed minutes of discussions were signed on behalf of the Department of Chemicals and Fertilisers by the Joint Secretary, Mr. N. Varadarajan and on behalf of the Polish side by the Deputy Minister of Chemical Industry, Mr. Jan Sidorowicz.

The Polish side said that it will be possible for them to offer technology and technical assistance, participation in joint ventures, help in modernisation of existing projects and supply of machinery and equipment in respect of identifiable projects.

They also presented a list of technology available with them for various drugs including technology for Binazine, a drug for treatment of hypertension and also for a new cardiac drug already marketed in Poland.

The Indian side indicated keen interest in technology for a number of drugs and pharmaceutical items like rifampicine, vitamin B-6, cephalosporine, toxoids and vaccines as well as for chemicals like teflon, furfural (from bagasse), bisphenol-A, phenolcuemens cyanuric chloride, gibberlic acid, hydrogenation catalysts, etc.

In case technology for furfural was found acceptable and a project could be established in India, it was agreed that Poland would buy back the product.

The Polish side also offered technology for petrochemicals like caprolactam and DMT and it was agreed that the Polish side will pursue their proposals with the concerned Indian Public

Sector companies. The Indian side supplied a list of petrochemicals which would be available for exports from India and also indicated the items that could be imported. The Polish side agreed to examine this in depth.

The Indian side also presented a list of drugs and pharmaceuticals and dyes and dye intermediates for which technology would be available with India. The Polish side agreed to examine the possibilities in respect of these and other items in which they might be interested.

A list of drugs and pharmaceuticals which could be exported to Poland or imported by India was also presented and the Polish side agreed to examine the proposals, particularly the one regarding supply of Streptomycin and Tetracycline to India this year.

India and Poland will also co-operate in the fields of mining equipment, building industry and designing of cement and glass industrial plants. A programme of co-operation was signed recently in New Delhi by Prof. M.G.K. Menon, Secretary, Department of Science and Technology, and Director-General, Council of Scientific and Industrial Research on behalf of India and Mr. J. Czapla, Ambassador of Poland on behalf of the Government of Polish People's Republic. Exchange of know-how for organic intermediate and pesticides, irrigation and water resources, plant cultivation and acclimatization, diseases of potatoes and futurology are some of the other areas identified in the programme.

The programme of co-operation emerged from the detailed discussion of the Working Group on Science and Technology during the sixth session of the Indo-Polish Joint Commission for Economic, Scientific and Technical Co-operation held recently. This new programme covers the period from January 1979 to December 1980.

The Agreement between the two governments for co-operation in the fields of science and technology was signed in 1974 and activities under this Agreement have been undertaken by signing specific programmes of co-operation for two years. The working group noted the progress made in the fields of diseases of potatoes, futurology and research on thyristor couplings for electric process.

New items included in the programme are exchanges of scientists between the Indian National Science Academy and Polish Academy of Sciences. The two sides also agreed to initiate co-operation in the field of high temperature materials and components for plasma research and coal gasification for Magneto Hydro - Dynamic power. plants. The two sides will co-operate in the field of water pollution and water quality control.

Another Libyan Contract Bagged by NBCC

The National Building Construction Corporation (NBCC) has bagged yet another prestigious contract in Libya costing US $ 14 million (Rs. 110 million) for constructing utility services of a township complex of 1,000 houses at Beniwalid (Libya). These services include construction of roads, storm water drainage, street lighting, sewage system and water supply/sewage treatment plants.

The NBCC is already executing the work of construction of houses in the above township complex valuing US $ 42 million (Rs. 330 million). NBCC has the unique distinction of the first Indian construction com to be awarded a construction job the phases of a township com in Libya.

In the overseas projects, the Co ation will be completing the con ction of the prestigious New Airport Complex costing about Rs million. The project is being exec in association with the Internati Airport Authority of India at in Libya. It will be completed the end of July, 1979. The air is expected to be inaugurated s tly.

The National Building Construc Corporation is a premier public se construction company under the M stry of Works and Housing. It secured a place for itself in the of stiff competition in the internatio field. The Corporation has earne name, particularly in Libya and I where it is executing prestigious con ruction contracts valuing over US 200 million (over Rs. 1600 million

MECON Wins Consultanc Contract in Syria

Metallurgical and Engineering Cons tants (India) Limited, (MECON), public sector undertaking under t Ministry of Steel and Mines, w prepare a Feasibility Report as t first step for the establishment of iron and steel complex in Syria. Protocol to this effect was signe in Damscus recently by Mr. K. Mohan, Chairman-Managing Direct of MECON and from the Syria side, by Dr. Hussain Ibrahim, Direct General of the General Establishme of Geology and Mineral Resources.

The award of Feasibility Study MECON represents a major breal through for Indian consultancy servic

broad, having been awarded against tiff global competition from reputed onsultancy organisations of West Germany, France and Britain. The Syrian side had been impressed by he fact that while MECON had offered the widest scope of work in ts tender, the time schedule of its completion was a significant improvement on the offers made by the other Western countries. The Feasibility Report will be prepared in about a years' time. The assignment which is to be carried out by MECON involves market study, review of geological exploration data, mining studies, testing of raw materials, preparation of report on mine development programme as well as a complete feasibility study for the establishment of the iron and steel complex with an initial capacity of about a million tonne per year.

In the discussions held earlier with the Syrian Deputy Prime Minister for Economic Affairs and Ministers of other departments, Syrian dignitaries had stressed that this was one of Syria's most prestigious projects and would be pivotal for the Fifth Five Year Plan of Syria commencing in 1981.

While communicating the Syrian Government's decision to award the contract to MECON, the Deputy Prime Minister for Economic Affairs of Syria emphasised that this had been done not only because MECON's offer was the most competitive, but also because after a very careful consideration of MECON's competence as indicated by its work in projects outside India, the Syrian Government had decided it would be mutually advantageous to cooperate with a friendly country such as India to the maximum extent possible.

PEC's Export Orders Doubled

There has been a rise of more than 100 percent in the export order book of the Projects and Equipments Corporation of India Limited (PEC), a subsidiary of the public sector State Trading Corporation of India Limited (STC).

As a result, the aggregate order booking stands at a figure of Rs. 1,000 million claimed to be the highest among public and private sector export houses. The orders involve supply of rolling stock and a wide range of other engineering items.

According to PEC, the Corporation has also concentrated its efforts on turn-key projects either independently or by working with leading engineering companies of developed countries for third-country projects, as sub-contractor, recently. The Bangladesh President had inaugurated a textile mill at Rajshahi in that country for which the major machinery and equipment were supplied, erected and commissioned by PEC on turnkey basis.

At present PEC has orders in hand for over 1,300 wagons and 136 coaches from Vietnam, Sri Lanka, Uganda and Nigeria which amount to Rs. 600 million. More orders worth Rs. 200 million are stated to be in the pipeline.

Besides these orders, the Corporation has so far supplied about 250 passenger coaches and over 6,000 freight cars to a number of countries including Taiwan, Zambia, Tanzania, Bangladesh, Yugoslavia, the Phillipines, Korea and Burma.

It is stated that a number of orders for railway equipment are in fact repeat orders which reflect the Corporation's satisfactory performance. Recently, it executed a repeat order for 30 passenger coaches to the Phillipines. Besides, it has recently shipped on schedule 66 hopper wagons to Bangladesh—a welcome diversification because India had not exported such types of wagons for a long time.

A contract for 34 coaches was signed with Sri Lanka some time ago. This represents the largest single order for supply of railway equipment to that country.

PEC has drawn a massive plan to tap the Soviet and the US markets during 1979-80. According to PEC business projections for 1978-79, its exports to both the countries, which are highly quality conscious, should cross Rs. 100 million each. A serious effort is also being made to exploit the Libyan market.

Till mid 1978, PEC exports to the US were negligible. A sustained effort to make a break-through in the market was made and as a result the Corporation's exports to America have averaged around Rs. 5 million every month during the last six months.

The entire export to the US consists of goods ranging from construction materials to 'special fittings' manufactured by the small-scale units in the country. During 1979-80, PEC expects to bag orders of more than Rs. 100 million.

Between April 1978 and January 1979, PEC had exported to the USSR goods worth Rs. 30 million only. Now as an outcome of its aggressive marketing, the Corporation hopes to bag orders worth Rs. 100 million from this market. The orders booked so far include supply of sophisticated machinery, machine tools, boilers for special applications and printing presses.

Significant Hike in Silk and Man-Made Textiles Exports

Exports of silk and man-made textiles during April-1978 to February 1979 crossed Rs. 700 million reaching an all-time high level. Man-made textiles especially have shown remarkable growth with exports during the period reaching Rs. 377.1 million against Rs. 298.7 million in April-February of 1977-78. With a month to go, the exports are all set to create a record by soaring beyond the peak of Rs. 385.2 million set in 1976-77. The performance in February sustained the tempo achieved in January with the export figure for the month standing at Rs. 46 million against Rs. 16.8 million in February 1978.

The heartening performance during the eleven-month period reflects the steep increases recorded in nylon and polyester fabrics, garments, made-ups, hosiery, knitwear and tyre cord/yarn. Exports of silk and man-made textiles during the calendar year 1978 amounted to Rs. 730.8 million.

Silk exports during April 1978—January 1979 stood at Rs. 326 million, against Rs. 251.8 million in the same period of 1977-78, showing an increase of nearly 30 percent. Mulberry goods took the lion's share as usual, accounting for 76.5 percent of the exports. January exports of silks amounted to 760,000 sq. mts. valued at Rs. 28.5 million, as compared to 867,000 sq. mts. valued at Rs. 25.5 million in January 1978. Exports of mulberry silks in the ten-month period amounted to Rs. 281.5 million and exports of tassar to Rs. 44.5 million, as against Rs. 215 million and Rs. 36.8 million respectively in the corresponding period of last year.

Fabrics accounted for 72 percent of exports of man-made textiles, while garments improved their share from 11 percent last year to 19 percent. The chief silk exports were sarees, scarves and stoles, dress materials, carpets and ready-made garments. Man-made textile exports were chiefly directed to UK, USA, Dubai, Singapore, Australia, Sudan, France, West Germany, Canada and Zambia, while leading buyers of silks were West Germany, USA, UK, Malaysia, Singapore, France ans Switzerland.

Product-wise, all the major groups have shown considerable increases. Among man-made textiles, fabrics improved from Rs. 245.4 million to Rs. 271.7 million, garments and made-ups from Rs. 31.6 million to Rs. 72.3 million, hosiery and knitwear from Rs. 2.7 million to Rs. 6.4 million and tyre cord/yarn from Rs. 6.9 million to Rs. 19.4 million. Among silks, export of sarees increased from 60.1 million to Rs. 65.9 million, dress materials from Rs. 38.2 million to Rs. 56.5 million, scarves and stoles from Rs. 56.3 million to Rs. 58.3 million, ready-made garments from Rs. 20.6 million to Rs. 41.9 million and carpets from Rs. 31.8 million to Rs. 46.6 million.

The encouraging features of the current year's exports are improvement in unit value realisation, the rapid strides made in exports of nylon and polyester fabrics, and in exports of dress materials and ready-made garments and carpets of silk.

According to the Silk and Rayon Textiles Export Promotion Council, export of these goods can be increased to Rs. 1,500 million including Rs. 1,000 million for man-made textiles. These goods are probably those few items where the addition is the highest. Fu production in these sectors is b large,confined to small scale and expansion of export trade lead to greater activity and capacity-utilisation. It will also greatly to the employment o tunities.

Export Quota of Cotton Released

Keeping in view the need to encou the cotton production and reviewing the expected demand supply position of the textile fi the Government of India rec decided to permit, as a first export of 150,000 bales of staple co of specified varieties during the cu cotton season. The question of cating this release among the var cotton growing States and the Co Corporation of India has been enga the attention of the Government sometime past and it has been deci by the Government to allow export as per the following patte Punjab 20,000 bales, Haryana 10, bales, Rajasthan 10,000 bales, Ma rashtra 20,000 bales, Gujarat 20, bales, Cotton Corporation of In 70,000 bales.

The quotas allocated to the Sta will be permitted to be utilised o by the apex Marketing Federati of the concerned States so that benefits primarily flow to the growe In order to ensure reasonable pr realisation on these exports, an appr priate floor price level will be fix by the Textile Commissioner for t various varieties.

New Office of CIE

An office of the Controller of Impo and Exports is being set up at Chand

rh to cater to the actual users' encing requirements of Himachal adesh, Chandigarh Union Territory id five Districts of Punjab. These istricts are Sangrur, Patiala, Rupar, aridkot and Bhatinda.

he Office was inagurated by Mr. rif Baig, Union Minister of State r Commerce, Civil Supplies and ooperation recently.

n April last year while announcing ne Import and Export Policy for ne financial year 1978-79, Mr. Mohan haria, Union Minister of Commerce ivil Supplies and Cooperation had mphasised the need for decentrali-ation in the administrative set up or issuing of licences etc. in the country. n pursuance of that, a new office f Controller of Imports and Exports vas set up in Jaipur in the Northern egion while the office at Amritsar vas upgraded and placed under the harge of a Deputy Chief Controller f Imports and Exports. The office n Chandigarh is being set up in ccordance with the same policy.

Indian Garments Exhibition in Japan — A Success

The first-ever garments exhibition which was organised by the Trade Development Authority in collaboration with Japan External Trade Organisation (JETRO) at Tokyo n February last has been a great success. Twentyfive selected ndian manufacturers and exporters participated in the exhibition. Till late, orders booked amount to Rs. 2.40 million and enquiries worth Rs. 21.56 million have been generated. The Japanese buyers are expected to place further orders with the Indian participants and these enquiries are likely to mature into confirmed orders.

The items of interest included both spring/summer and autumn/winter collections displayed by the Indian participants at the exhibition. Of special interest were items like children's garments, men's shirts, ladies' blouses including embroidery and tie and dye, ladies' shirts, ladies' skirts, fabrics, quilted jackets, ladies' vests, long dresses, furnishing materials, maxis, industrial and leather gloves, handkerchiefs, flannel shirts, silk shirts, T-shirts, silk scarves, woollen knitwear etc.

Considering the fact that the Japanese market is difficult to penetrate, the exhibition was a tremendous success, not only in terms of orders booked and enquiries generated but also contacts established with a cross-section of major Japanese buyers, importers, department stores and super markets.

Buyers from all the major cities from Japan attended the exhibition and concluded business negotiations. In all 516 buyers visited the exhibition including 217 importers, 210 wholesalers/manufacturers, 34 trading houses and 55 super markets. Representatives from all the major trading houses of Japan namely, Nichimen, Nisho-Twai, C. Itoh and Co., Toyo Manka, Marubeni Mitsui, Mitsubishi, Sumitomo, Kanematsu-Gosho, Chori and Naruma visited the exhibition.

The exhibition has also brought to light the fact that any contacts established with the Japanese buyers should be cultivated and followed up by Indian suppliers. Orders booked should be meticulously monitored to execute delivery on time. The Japanese market for garment provide a welcome opening in the background of quotas and other restrictions imposed on imports of garments in Western Europe, USA and Canada.

Industrial Growth and Diversification

Uptrend in Heavy Industry Units Output

The 15 undertakings under the Department of Heavy Industry, Union Ministry of Industry, achieved a production worth Rs. 1068.20 million during February 1979 which is 98 percent of the target of 1091.20 million. This is 11 percent higher than the production of Rs. 962.60 million in February, 1978. In addition, the turn-over of Engineering Project (India) Ltd., a consultancy-cum-contracting company in the public sector, was Rs. 125.60 million, 16 percent higher than the turn-over of Rs. 108.30 million in the same month last year.

Cumulatively, the aggregate production of all the units during the first eleven months of 1978-79 was Rs. 9235.90 million, i.e. 28 percent higher than the production of Rs. 7198.80 million during the same period last year. In addition, the turn-over of Engineering Projects (India) Ltd., during the above period, was Rs. 981.40 million, which is Rs. 377.30 million higher than the turn-over of Rs. 604.10 million during the same period last year.

The contribution of Bharat Heavy Electricals Ltd., in the cumulative production of eleven months was 5498.30 million, 25 percent higher than the production of Rs. 4394.40 million in the same period last year and that of Hindustan Machine Tools Ltd. Rs. 1444.80 million, 64 percent higher than the production of Rs. 882.10 million in the corresponding period last year.

The production of Heavy Engineering

Corporation Ltd. was Rs. 610.30 million or nearly double of their production of Rs. 307.50 million in the same period last year.

Other undertakings which recorded higher production during the first eleven months against the corresponding period last year are Bharat Pumps and Compressors Ltd. (73 percent), Richardson and Cruddas Ltd. (57 percent), Scooters India Ltd. (36 percent), Mining and Allied Machinery Corporation Ltd. (27 percent), Tungbhadra Steel Products Ltd. (18 percent) and Braithwaite (5 percent).

Record Agricultural Production

India is posied for reaping another record harvest during 1978-79 crop year, despite an estimated loss of about three million tonnes of foodgrains due to unprecedented floods in most parts of northern India.

According to preliminary assessment, the overall foodgrains production of 1978-79 is likely to exceed the 1977-78 level of 125.6 million tonnes. The outlook for commercial crops also is more encouraging. The Annual Report of the Union Department of Agriculture for 1978-79 indicates that the target of 2.8 million ha. of additional irrigation (1.45 million ha. by minor irrigation alone) is likely to be achieved and the target of fertiliser consumption of 5 million tonnes of nutrients exceeded.

Preliminary reports for rice indicate that the fall in production in West Bengal and Madhya Pradesh will be offset by a substantial increase in production in Andhra Pradesh and some increase in Uttar Pradesh, Orissa, Punjab, Haryana and Tamil Nadu. The production of jowar and maize that were adversely affected by excessive rains and floods in some areas might be slightly lower than last year. Reports for wheat give indication of further advance over the record level production of last year. The production of pulses might turn out to be marginally better.

Cotton output might increase by 100,000 bales of 170 kg. each from 7.4 million bales to 7.5 million bales. Sugarcane output is expected to be close to last year's record production. Oilseed production may register an increase of 700,000--800,000 tonnes over the last year. Of this, groundnut share may be about 500,000 tonnes. Raw jute production has been estimated at 6.45 million bales of 180 kg. each, which is 20.4 percent higher than the previous year. This production sets a new record and exceeds the previous highest production of 1967-68 by a margin of 134,000 bales.

The report points out that the high priority given to agriculture by the Government led to a new peak production in agriculture during 1977-78. The agricultural production index (with triennium ending 1969-70 as base) touched a new high of 132.7 which was 13.9 percent higher than the previous year's level. The foodgrains output touched the record level of 125.6 million tonnes—4.6 million tonnes more than the previous peak production of 1975-76 and 14.4 million tonnes more than the production in 1976-77. The production each of rice, wheat and jowar was higher than the previous year.

A development of far-reaching significance is that of breakthrough in rice productivity in several areas. Further advance in wheat production belied the earlier fears that the n tum in the growth of wheat prod was petering out. As regards the spread of hybrid varieties to have contributed to its production. Significantly, the in in production of these crops is l due to higher productivity a shared by almost all the major ducing States.

Significant advances were also ach during 1977-78 in the productio certain commercial crops. C output marked a rise of 21.6 pe to 7.1 million bales, groundnu creased by 15.4 percent to 6.07 mi tonnes. Oilseeds production inclu five major oilseeds touched 9.46 mi tonnes as compared to 8.36 mi tonnes in the previous year. Sugar production at 181.6 million to marked a rise of 18.5 percent over previous year and created probl of surpluses. The increase in production of jute and mesta marginal. The production of pota moved up from 4.8 million ton in 1975-76 to 6.1 million tonnes 1976-77 and 8.1 million tonnes 1977-78.

Advances in agricultural product have imparted remarkable strength the economy. On the food fro the country is out of the 'scarc trap', and the removal of contr and inter-state zonal restrictions the movement of foodgrains has ensur easy availability of foodgrains ev in traditionally deficit States of Mah rashtra, Kerala and West Bengal whe rice is now freely available at reasonab prices. Public agencies hold stoc exceeding 17 million tonnes of cereal The entire procurement of wheat an paddy has been on a voluntary basi Supply of sugar and other sugarcan products are plentiful and instea of nearly 30 percent rise in the consum

ion of sugar since decontrol, the untry is still facing the problems surpluses.

veral factors have contributed to creased production. To cite some stances, fertiliser consumption was 3 million, an increase of 26.5 percent er the previous year's level and as uch as 48.4 percent over the consumtion in 1975-76. The increase of 00,000 tonnes in one year was the ighest in a single year.

The area brought under high ielding varieties during the year as 38 million hectares as comared to 33.6 million hectares the previous year and 15.38 million ectares in 1970-71. Intensified efforts or transfer of technology through eorganised extension services especilly under the T&V system made aluable contribution to higher proluctivity. The institutional credit low for the year ending June 1978 as Rs. 23,600 million including Rs. 5,800 milliom of short term credit nd Rs. 7,800 million of medium and ong term credit as against Rs. 20,560 nillion in the previous year. This trengthened the capability of the armers to undertake development and arger use of inputs.

Special attention has been paid to the production of pulses, oilseeds and otton. Besides this, the problem of water management, crop diversification, purposive efforts for bringing more and more area under pulses, oilseeds and cotton are receiving attention.

Price incentive programme has been aken for nearly all important crops nspite of the general economic policy of containing inflation and achieving growth with stability. The number of commodities for which minimum support/procurement prices are being fixed has been further increased.

The outlay for agriculture and allied sectors during 1977-78 was Rs. 12,640 million, an increase of 36 percent over the previous year. The outlay for 1978-79 was further stepped up to Rs. 17,540 million, and to Rs. 18,110 million in 1979-80.

The target of bringing additional area under irrigation during 1978-79 is 2.8 million hectares including 1.45 million hectares under minor irrigation. The achievement in 1977-78 was 2.6 million hectares including 1.1 million hectares under minor irrgation. Substantial outlays have been provided for command area development to ensure optimum utilisation of irrigation potential. During 1978-79, nearly 400,000 hectares are expected to be benefited by construction of field channels and 150,000 hectares by land levelling and land shaping programmes.

During the year, 186 plants comprising 92 liquid milk plants, 28 milk products factories and 66 pilot/rural dairy centres were in operation with an average daily output of about 5.3 million litres of milk besides other milk products. Another 55 plants were under construction during the year.

268 projects under the livestock development programme for cross bred heifers, poultry, piggery and sheep have been taken up in 183 districts with special emphasis on benefiting small and marginal farmers and other weaker sections. Operation Flood-II involving an investment of Rs. 4850 million for the period 1978-85 was launched during the year. This programme aims at benefiting 10 million farm families covering a milch herd of about 15 million productive cross-bred cows and upgraded buffaloes. Under the project the milk sheds in 155 districts would be launched with 148 towns, covering an urban population of 150 million.

Special attention is being given to the exploitation of marine fisheries. Construction of fishing harbours at three major ports and five minor ports was completed during the year. In addition, one major and three minor ports are nearing completion. In January 1979 there were 79 fishing vessels as against 52 last year. This strength is being further augmented. Fish production in 1978-79 is anticipated to be about 2.76 million tonnes as against 2.54 million tonnes in the previous year.

In the field of land reforms, the report says that about 46 million hectares of land has been consolidated all over the country. Under the land ceiling laws 648,000 hectares of surplus land has so far been distributed among 1.055 million farming families. More than 50 percent of these beneficiary families belong to Scheduled Castes and Scheduled Tribes.

Government has accepted recommendation of the Raj Krishan Committee that land reform laws should continue to enjoy extra-ordinary constitutional protection and disposal of land reform cases pending in courts should be expedited.

Rise in Mini Steel Plants Output

As a result of steps taken by the Government to improve the viability of mini steel plants, the average monthly capacity utilisation of these plants

has since increased from 61 percent in April, 1978 to 74 percent in December, 1978. The total production of ingots in the mini steel plants in the first nine months of the financial year, up to December, 1978, was 1,214,648 tonnes as against the total annual production of 995,000 tonnes in 1976-77 and 1,134,828 tonnes in 1977-78. It is estimated that the total production of ingots by the mini steel plants during the current year will exceeds 1.6 million tonnes.

The measures, initiated to revive the industry which had languished in the past for want of scrap and high cost of production, include the abolition of excise duty on production of ingots and rolled products and the exemption of imported ferrous melting scrap for use in the electric arc furnace from customs duty. Apart from allowing direct import of 200,000 tonnes of ferrous melting scrap by the electric arc furnace units on ad-hoc basis during 1977-78 against which the units have finalised import of 40,000 tonnes, in the current year, import of ferrous melting scrap has been placed on the canalised list wihtout any quantitative restrictions.

At the same time, use of Indian and foreign flag vessels for breaking is also being encouraged to increase indigenous availability of scrap. Ship breaking generates 10 percent to 15 percent melting scrap which will be available for melting by the melting units, apart from 75 percent re-rollables which will be supplied to the re-rolling mills which in turn will be making more melting scrap avaiable to arc furnaces.

Excise duty on certain categories of heavy melting scrap procured from the integrated steel plants has been abolished.

Mini steel plants have been allowed to diversify into production of certain grades of alloy steels and financial institutions have been asked to consider favourably applications for loans from mini steel plants for purposes of diversification, depending upon the viability of the scheme. Steel re-rolling mills and mini steel plants may also now seek financial assistance under the Soft Loan Scheme, which provides for financial assistance on easier terms.

The question of according priority to mini steel plants in the matter of supply of power is also being considered. Guidlelines for effective rationing of power, in terms of the scheme of graded priorities, are now being reviewed by Government.

Substantial Rise in Aluminium Output

Production of aluminium during the current year has registered an increase of about 20 percent over the production achieved during 1977-78. However, the aluminium smelters could not produce to their full capacity due to non-availability of adequate power.

Indigenous production was supplemented by the import of 31,000 tonnes of metal in the form of ingots and wire rods upto the end of February during the current year. Purchases were made at different points of time on the basis of competitive tenders.

This information was given by Mr. Karia Munda, Union Minister of State for Steel and Mines, in a written reply to a question in the Lok Sabha recently.

Notable Increase in Irrigation Facilities

Substantial progress in the completion of eight major and several medium irrigation projects, creation of irr potential of 2.6 million hectare million ha. by major and m projects alone—in a single yea initiation of measures for furth sation of irrigation potential ar of the more significant achiev during 1978-79 of the Departm Irrigation, under the Union M of Agriculture and Irrigation. alongwith settlement of several State disputes on the sharing of of common rivers has paved th for fuller utilisation of country's resources in the years to come.

According to the Report of the D ment of Irrigation for the year 19 recently major irrigation projects have progressed substantially d the year are : Rajpur Canal (Bi Ukai and Kakrapara (Gujarat) ; Lift Irrigation (J and K) ; Chitterp and Kuttaidi (Kerala) ; Barna (M and Ramganga (U.P.).

Others which too have regist substantial progress include Naga sagar and Pachampad (A.P.) ; Ga (Bihar) ; Upper Krishna (Karnata Jayakwadi (Maharashtra) ; S Sahayak (Uttar Pradesh) and Ra than Canal.

A start has also been made on th major projects—Bansaga and A in Madhya Pradesh and New Ok Barrage in Uttar Pradesh beside number of other medium proje with a view to ensuring continu in development. Modernisation existing irrigation systems has a received greater emphasis during year to ensure optimum benefits.

Some of the inter-State disputes sharing of waters of common riv resolved during the year were : Damodar, Barakar, Ajoy, Mayuraks Siddheshwari, Noon-Bheel and Mah

da river basin between Bihar and st Bengal ; (ii) Subernarekha-arkai basin between West Bengal, ar and Orissa ; and (iii) Nagvali, njavati, Bahuda and Godavari basin ween Andhra Pradesh and Orissa. der the last agreement Andhra desh and Orissa will jointly take Naradi Project on the Vamsa-ara river. The Narmada Tribunal ard during the year has paved the y for development of vast water ources of the Narmada.

ith the creation of 52.2 million ctares of irrigation potential by 77-78, a total of 60.9 million hectares potential has been left to be created t of the assessed potential of 113.1 llion hectares in the country. To sure this, the Working Group of e Department of Irrigation has commended provision of Rs. 82,000 illion for creation of an additional igation potential of eight million ctares through major and medium ojects during 1978-83. Annual ditional target of additional irrigation tential through such projects has en fixed at 1.6 million ha. as against l million ha. achieved during the ur years of the Fifth Plan.

he report further points out that of e 146 major and 756 medium projects ndertaken since 1951, 40 major and 47 medium projects have since been mpleted, besides a number of projects ave been partially commissioned to eld early benefits.

uring 1978, while heavy rains and oods caused immense loss of life, roperty and crops in Haryana, Uttar radesh, Bihar, West Bengal and Delhi, e cyclones were reponsible for consi-erable damage in Kerala, Tamil adu and Laksha dweep. Total damage uring the year on this account has been estimated at about Rs. 10,910 milllon.

Since the launching of the National Flood Control Programme in 1954, about 9.8 million ha. out of a total estimated flood prone area of about 34 million ha has been given protection through flood protection works involving an expenditure of nearly Rs. 6330 million. Against the outlay of Rs. 1267.1 million for 1978-79, the expenditure is likely to go up to Rs. 1547.5 million. Advance Plan assistance allocated to States during the year was about Rs. 2397.7 million.

A multi-disciplinary working group set up by the Department of Agriculture to evolve an action plan for achieving positive results for flood control has suggested an outlay of Rs. 17270 million for the Indo-Gangatic basin for the period 1978-83. This will cover not only the engineering works but also soil conservation, afforestation and watershed management.

The report further points out that flood forecasting works in almost all the major and inter-State river basins have been covered under the flood forecasting programme. During 1978 these services have been extended to 12 more river basins.

India Achieves Price Stability

"In a world still confronted with high rates of inflation, India can claim a unique distinction of general price stability. This is one of the major achievements of the Government",according to abrochure released recently by the Union Ministry of Commerce, Civil Supplies and Co-operation.

The brochure points out that the attainment of price stability is particularly significant taking into consideration the facts that in March, 1977, the rate of inflation, on a point to point comparison, was as high as 12.5 percent ; devastating cyclone which hit South India in November, 1977 and widespread floods in North India in 1978 summer ; bottlenecks of transportation and power cuts and higher rates of increase in money supply. Sustained overall price stability of good weather conditions but also because of better demand and supply management, better anticipation of emerging situations and advance action.

In March, 1977, the all-commodities wholesale price index stood at 182.9 as compared to 162.6 in the same month in 1976, showing an increase of 12.5 percent. The index moved up further to 188.7 in July, 1977. It started moving down from August, 1977 reaching 182.9 in March, 1978. Between April, 1978 and December, 1978, the average index was 0.6 per cent lower over the corresponding period in 1977. In January, 1979, the index stood at 184.6; at this level the index was more or less the same as in January, 1978 and only 0.9 percent higher as compared to March, 1977. A noteworthy feature of the price situation is the progressive fall in the rate of inflation measured on the basis of 12 monthly moving average of all commodities wholesale price index. As such the rate of inflation has come down from the peak level of 7.6 percent in November, 1977 to 5.2 percent in March, 1978 and minus 0.5 percent in January, 1979. The current rate of inflation in Australia is 8 percent, France 10 percent, UK and USA 9.5 percent, West Germany and Japan 3 percent.

In January, 1979, the wholesale price indices of a number of essential commodities were lower or more or less at the same level as compared to the indices in January, 1978. These commodities are : wheat, jowar, barley, bajra, maize, ragi, masoor, potatoes, onions, gur, vanaspati, groundnut oil, mustard oil, coconut oil, gingelly oil, cottonseed oil, handloom and powerloom cloth and khadi cloth. However he whole sale price indices of gram, arhar, moong, urad, milk, eggs, meat, soft coke, kerosene, cement, salt, cotton cloth (mills), footwear, tyres and tubes, soda ash, soap hurricane lanterns, razor blades and dry cells were higher in January, 1979 as compared to the wholesale price indices in January, 1978. The analysis indicates that except pulses most of the other commodities which have witnessed rise in prices are manufactured commodities.

The consumer price indices for industrial workers and agricultural labourers are not, strictly speaking, comparable with the sholesale price index on account of difference in the base year, coverage of commodities and also variation in weights assigned to various commodities in these indices. The consumer price indices which were showing uptrend upto October, 1978 have shown significant downtrend in subsequent months. The consumer price index for industrial workers came down from the level of 340 in October, 1978 to 332 in January, 1979. At this level the index was 2.2 percent higher over the year. The consumer price index for agricultural labourer declined from 325 in October, 1978 to 315 in January, 1979. Over the year, the index in January 1979 was lower by 3.1 percent. This variation in the trend in the two indices may be attributed to the fact that in the consumer price index for agricultural labourers, food articles account for a weight of 78 percent as against 60 percent in the consumer price index for industrial workers.

The basic strategy to combat inflation and improve the availability of essential commodities was the evolution of a workable system of management of demand and supply at macro and micro levels. The basic tenets of this strategy are : emphasis on increase in the production of essential commodities and items of mass consumption provision of incentive prices to farmers; augmenting the availability of essential commodities in short supply through imports and conserving commodities through regulation of exports; control on money supply; strengthening of the public distribution system; removal of transport and power bottlenecks; preventing speculative/hoarding tendencies; and strengthening of broad based voluntary consumer movement.

By and large, Government has succeeded in containing inflation and ensuring supply of most of the essential commodities at reasonable prices throughout the country. Yet at the same time there is no room for being complacent because there are a large number of economic and non-economic forces at work both within the country and abroad which have their impact on prices and availability of essential commodities.

The Government will continue to keep a close watch on the movement of prices and availability of essential commodities and take further measures, both at macro and micro levels, to meet the emerging situations. The Central Government has advised the State Governments and Union Territory Administrations to set up committees for the supervision of the public distribution system and for safeg consumer interests. Governm also encouraging the developm broadbased voluntary consume ment in the country.

Promoting Growth of Small Bakeries

Modern Bakeries has been as the Central Government to tak tive steps to implement the C ment policy as regards reserva bakery industry for small an sectors. Action in this rega already been initiated and is ex to show tangible results in the c years. Giving this information inaugural address at the All Exhibition on Bakery and Confec Goods and Allied Products in Delhi recently, the Union Minis Agriculture and Irrigation, Mr. Singh Barnala pointed out tha idea was that a large number o units should come up in small t if possible, in rural areas.

Referring to the welcome improv in the country's food economy Minister observed that the total q tity of food released to the roller mills has increased from 2,25,343 t in 1976 to 4,21,488 tonnes in 197 to 521,693 tonnes in 1978. Ther also been a welcome improveme the availability of baker's yeast other raw-materials. Earlier, growth rate of the bread indu was about 5 percent and bis industry about 20 percent. There i reason why the expansion should now be stepped up. Now India h large market and can absorb add nal production in the bakery sector

The Minister further held that organised sector can play a very sig cant role in helping expansion in small and tiny sector by giving supp

echnology improvement and mar-
ng. He suggested that the problem
d by the small scale and tiny sector
ld be studied and solution sugges-

One step would be to train
nagers and enterpreneurs. The
itute of Catering Technology and
dcraft Institutes under the Depart-
t of Food are already imparting
nology in bakery. Two bakery
ning schools with the assistance of
Society of India Baker's are
arting training in bakery. Gov-
ment will take steps to increase the
lities for institutional training in
spective entrepreneurs and managers
ther. In the mid-term plan, two
re bakery schools are proposed to
added to meet the increasing re-
rements of bakery technologies.

ience and Technology

nproved Technology for CL Collieries

e Western Coalfields Limited(WCL)
s drawn up a programme of action
the year 1979-80 for improving
mining technology in their 96
lieries spread over in the States of
aharashtra, Madhya Pradesh and
estern Orissa.

ne objective of the plan is to improve
working conditions at the working
es and also to achieve a higher
gree of efficiency in their operations.

order to increasingly mechanise the
al faces for reducing the drudgery of
nual loading underground, WCL,
the first instance, has decided to
mmission 35 additional scrappers at
cost of Rs. 4.5 million during the
xt financial year. The encouraging
sults of the uses of these scrappers on
experimental basis during the
current financial year had been the basic motivating factor for the WCL's management to introduce this device at a larger scale.

Another important aspect of the programme of action of experimenting with new techniques accepted for trial by WCL during the next financial year is to use small diameter drills in their open cast mines for drilling optimum size of blasting holes both for reducing blasting cost and the best possible utilisation of expensive opencast equipments including draglines, dupmers and dozers. This experiment in the first instance will be conducted in the Manikpur opencast mine in District Bilaspur in Madhya Pradesh.

In order to recover the huge coal reserves standing in pillars, Western Coalfields has also decided to recover this otherwise lost coal by depillaring with side loaders with timber and steel supports in West Chirimiri, Churcha and New Chachai collieries in Madhya Pradesh.

Since the hydro-geological studies in the Mahakali colliery conducted by Central Ground Water Board has revealed that amount of water likely to come with caving is estimated to be manageable by pumping, the experiment caving project at Mahakali Colliery in Maharashtra is likely to go in operation in the beginning of the next financial year. The depillaring with caving at Mahakali will enable Western Coalfields' management to save clossal expenditure which would otherwise have to be incurred on sand stowing.

To improve productivity and safety, and for higher percentage of extraction from their mines in Maharashtra, Western Coalfields has planned to experiment longwall faces with hydraulic sand stowing in Silewara, Kamptee, Ballarpur and Ghugus colliers. With the objective of replacing solid blasting with shearers over a period of time in a phased way, Western Coalfields has in the first instance decided to introduce this device in Bijuri, Surakachhar and Churcha collieries immediately. Shearers are likely to be received in these collieries shortly.

India's Oceanographic Work Lauded

Scientists of the National Institute of Oceanography, Goa (NIO) had been invited to present the results of offshore mineral exploration carried out by the Institute at a seminar on offshore mineral resources organised by the GERMINAL (Groupe d'Etude et de Rocherche de Mineralisations Au Large) and the BRGM (Bureau de Recherches Geologiques at Mineres) at Orleans, France, in October last. The seminar was attended by 200 participants from 22 countries. The methods used by the Institute for exploring heavy mineral placer deposits evoked considerable interest among the participants, particularly those from the developing countries. In the proceedings of the seminar which have been issued recently, NIO's contribution was summed up as "an interesting picture of the present status of exploratory work on India's vast continental margins, an area with distinctive tropical and sedimentory features. It has been possible to form general views on the economic potential offered by this plateau mainly titanium mineral compounds and biogenic sediments. India is setting an example for other developing countries by her continuous and coherent efforts to explore and assess her surface mineral resources completed by herself.

India's External Trade Trends

According to the Economic Survey of the Government of India for 1978-79, a notable feature on the external front of India's economy during 1977-78 was the re-emergence of a trade deficit of Rs. 6,930 million in contrast to a surplus of Rs. 690 million in the previous year.

The buoyancy in exports experienced in the previous three years when their rate of growth averaged 27 percent subsided considerably in 1977-78 and exports rose only by 4.5 percent. This sharp deceleration was the combined result of the increase in protectionist measures against some of India's exports in importing countries, the persistence of recessionary conditions in major industrial countries of the world and restrictions placed by Government on exports of certain agriculture based mass consumption commodities in order to protect domestic consumer interest. In contrast, imports increased by 19.6 percent from Rs. 50,740 million due among other to a substantial step-up in the imports of edible oils, man-made fibres, rough diamonds, POL, raw cotton and fertilisers.

Provisional data for April-November, 1978 show a further widening of the trade deficit. Exports during the period at Rs. 33,920 million were marginally lower as compared to Rs. 34,720 million in the same period last year. At the same time, imports rose by 21.2 percent to Rs. 41,210 million. However, the rate of decline in exports witnessed in the earlier months of the current financial year has showed down in the months of October and November, 1978. At the same time, the rate of growth in imports which was 33 percent in April-July has come down to 21 percent in April-November, 1978.

The geographic distribution of exports under-went some changes in 1977-78. Exports to East European Countries went up by 17 percent during the year leading to an increase in the share of these countries in India's total exports from the previous year's 14.4 percent to 16.1 percent. Similarly, exports to USA recorded significant gains and the share of USA moved up from 11.0 percent to 12.5 percent. On the other hand, exports to Japan declined by 7 percent due largely to a fall in the exports of iron ore and consequently the share of Japan dropped from 10.6 percent to 9.4 percent. Likewise, the share of OPEC fell from 13.7 percent to 12.9 percent following a marginal decline in exports to these countries. Again, the share of EEC which had recorded a sharp increase in 1975-76 and 1976-77 witnessed a decline from 27.1 percent in 1976-77 to 25.9 percent in 1977-78. The share of other countries, however, remained at the previous year's level of 23.2 percent.

The directional pattern of imports also witnessed some significant variations in 1977-78. Thus, imports from USA dropped sizeably during the year due mostly to the steep fall in imports of foodgrains. As a result, the share of USA in India's total imports decreased to 12.5 percent from 20.7 percent in the pervious year. The share of OPEC also declined from 25.6 percent in 1976-77 to 22.3 percent in 1977-78. On the other hand, the share of EEC increased substantially from 19.9 percent at 25.3 percent following a sharp rise in value of imports by 51 percent. Likewise, the share of East European Countries improved from 9.3 percent to 10.2 percent and that of Japan from 5.9 percent to 7.1 percent. share of other countries also inc from 18.6 percent to 22.6 percent

The value of India's imports had shown a decline of 3.6 perce 1976-77 increased by 19.6 perce Rs. 60,660 million in 1977-78. magnitude of the increase, d a steep fall in the value of im of foodgrains, was quite substa In fact, the level of non-food im during the year rose by 42 per This rise was largely accounted f a sizeable step-up in the impo edible oils, man-made fibres, pre and semi-precious stones, POL, cotton and fertilisers. These six together recorded an increase o 12,120 million in imports as comp to the increase of Rs. 9,930 milli the overall value of imports.

In the commodity-mix of im during 1977-78, edible oils eme as a single major item responsibl a substantial part of the increas imports. Their imports recorde seven-fold increase from Rs. 1 million to Rs. 7,120 million due ma to rise in the quantity importe 1.29 million tonnes from 0.17 mi tonnes in 1976-77. The step-u import of this consumer item necessary to maintain domestic p stability. Imports of man-made fi increased sharply from Rs. 300 mil in 1976-77 to Rs. 1,920 million 1977-78 to meet the growing dome demand and for substituting co which was in short supply during year. Similarly, raw cotton imp increased by Rs. 690 million owing an increase in the quantity impor as well as in the unit value. Imp of unworked precious and semi-preci stones increased by 83 percent Rs. 3,310 million to meet the grow demand of the export oriented gem a

ellery industries. Imports of fertili- recorded an increase of Rs. 770 lion, against a sharp decline wit- sed in the previous year. This rease was the result of a spurt in nestic demand, which was not being t from domestic production. Petro- m and petroleum products (POL) tinued to remain the largest single n of imports. The value of their ports at Rs. 15,560 million in 7-78 was higher by 10 percent r than in 1976-77. On the other nd, food imports which were of the der of Rs. 8,580 million in 1976-77 clined to Rs. 1,220 million in 7-78 because of improved domestic oduction. As a consequence, the re of food items in total imports clined to 2 percent in 1977-78 m 17 percent in the previous year.

ie first eight months of 1978-79 saw continuation of the rising trend in ports. According to provisional data ports during April-November, 1978 Rs. 41,210 million recorded an rease of 21 percent over the level imports in the comparable period the previous year. Commodity-wise tails available for the first-half of e year indicate significant increase the imports of fertilisers, iron and el, non-ferrous metals, unworked ecious and semi-precious stones, news- int and capital goods. The progres- e liberalisation of imports coupled th a reduction in import duties a number of machinery items are ely to sustain the rising trend in ports in the current year as a whole.

1977-78 there was a decline in rnings from a number of items cluding fish and fish preparations, gar, oil cakes, leather and ther manufactures, cotton fabrics, tton apparel and iron and steel. ese items had been responsible for a large part of the buoyancy in exports in recent years. However, there was a sizeable rise in exports in cashew kernels, spices and engineering goods and a spectacular increase in the earnings from tea, coffee and pearls and precious stones.

During 1977-78 among various export items, tea showed the most striking improvement. With an export earning of Rs. 5,550 million, it recorded an increase of Rs. 2,620 million over the previous year's earnings and the entire increase flowed from gains in unit values. A shortfall in world production of tea and other beverages like coffee and cocoa was responsible for the sharp increase in tea prices. Similarly, export earnings from coffee increased by Rs. 650 million during 1977-78 largely on account of a steep rise in unit value realisation. Spices as a group exhibited improvement in earnings by 83 percent to Rs. 1,370 million. Both the quantity and unit value of major products in this group namely, pepper, ginger and turmeric recorded substantial increases. The other significant contribution came from handicrafts which as a group showed enhanced earnings by 65 percent to Rs. 7,500 million. The most promosing item of this group was pearls and precious stones, the earnings from which increased to Rs. 5,460 million from Rs. 2,870 million in the previous year. Cashew kernels was another item which, despite a fall in the quantity of exports by 22 percent, registered an increase in value of 41 percent due to a more than compensating rise in unit price to Rs. 37.1 per kg. from Rs. 20.6 per kg. in the previous year. These five items, viz., tea, coffee, spices, handicrafts and cashew kernels, together accounted for an increase of Rs. 7,270 million in export earnings and more than off-set the losses suffered in other export items.

Exports of tobacco and engineering goods recorded moderate increases. Export earnings from tobacco rose by Rs. 150 million due to a marginal rise in both quantity and unit value. Exports of engineering goods, a growth item, increased to Rs. 6,170 million in 1977-78 from Rs. 5,660 million in the preceding year. Moreover, jute exports recorded an increase of 22 percent to Rs. 2,550 million during the year.

The items, which suffered significant reverses in export earnings and thereby depressed the rate of growth of exports during 1977-78, were oil cakes, fish and fish preparations, sugar, cotton fabrics, cotton apparel, leather and leather manufactures, silver and iron and steel. Oil cakes which had recorded an increase to two and a half times to Rs. 2,340 million in 1976-77 declined to Rs. 1,330 million during 1977-78, A drastic fall in the quantity exported was responsible for the decline in export earnings. The shortage of oilseeds and the need for preserving groundnut extraction for domestic use were the factors limiting the exports of oil cakes. Fish and fish preparations earned Rs. 60 million less due solely to a decline in unit price to Rs. 28 per kg. from Rs. 31 per kg. realised in the previous year. Sugar encountered a strong buyer's market and export earnings slumped to a negligible Rs.170 million as against Rs. 1,480 million in 1976-77 and Rs. 4,720 million in 1975-76. The quantity exported declined to 70,000 tonnes from 0.58 million tonnes in 1976-77 and 1.2 million tonnes in 1975-76. Cotton apparel, earnings of which had increased from Rs. 1,460 million in 1975-76 to Rs. 2,630 million in 1976-77, declined to Rs. 2,350 million during

the year due to quota restrictions in importing countries. The export of cotton fabrics was constrained by the spurt in prices of cotton on the one hand and restrictive policies in importing countries on the other. The quantity exported declined considerably and there was a fall in export earnings of 17 percent. Leather and leather manufactures, which had shown an increase of 31 percent in 1976-77 following improvement in demand abroad, suffered a demand recession in 1977-78 and export earnings declined to Rs. 2,480 million from Rs. 2,640 million in 1976-77. Similarly, iron and steel which had earned as mush as Rs. 2,910 million in 1976-77 fell to Rs. 1,860 million during 1977-78 due to domestic supply constraints and a reduction in demand abroad.

The current year began with a rapid deterioration in exports and in the first eight months, the value of exports recorded a decline of 2.3 percent from the level of exports during April-November, 1977. Although the rate of decline decelerated considerably in later months the performance for the year as a whole may not show an improvement over 1977-78. Exports in the current year have been adversely affected by continued recessionary tendencies in developed countries and the protectionist measures adopted by them, the fall in international prices of such important items like tea, coffee and cashew-kernels and the reduction in exportable surpluses of certain items. According to reliminary data for the first half of 1978-79, there has been some improvement in earnings from fish and fish preparations, leather and leather manufactures, engineering goods, silver and chemicals and allied products. The improvement in exports of the items mentioned above seems to have stemmed from a pick up a both demand and export price. Th distinct down trend in the expo tea, coffee, cashew kernels, to spices, iron ore, iron and steel, fabrics etc., during the first h 1978-79 as compared with the period last year. Tea, coffee and appear to have lost ground due slump in their prices and a weak of export demand. Thus, the price of tea is reported to have dec from Rs. 27.4 per kg. in first of 1977-78 to Rs. 21 per kg. in same period this year. Similarly unit price of coffee has fallen Rs. 38.5 per kg. to Rs. 22 per during the same period. In the ca iron and steel, domestic supply straints have come in the wa exports, while in the case of co fabrics, import restrictions opera in industrial countries have affe the exports.

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economic and commercial news

News Highlights

Indian Built Airport In Libya
The first Indian built airport abroad at Ghat, in Libya, was commissioned recently for flying operations. Built by the International Airports Authority of India, the Rs. 430 million project included construction of 3,600 metres long runway, a secondary runway 15,000 metres long, a parallel taxi track and main apron.
(Facing Column)

Indo-Italian Cooperation in Science and Technology
India and Italy have agreed to cooperate in several areas of science and technology which includes new energy sources, agricultural sciences, materials research, seismology and seismic engineering, hydrology and water resources management, soil conservation and medical sciences. Documents to this effect were exchanged at New Delhi recently.

Massive Road Development Underway
A sum of Rs. 1,450 million is likely to be utilised on various road schemes in India including the development of National Highways during 1978-79. This is the largest ever outlay provided for central
(*Contd. on page* 2)

Export Performance and Potential

Indian Built Airport in Libya Commissioned

The first Indian built airport abroad at Ghat, in Libya, was commissioned recently for flying operations. The regular commercial flight landed at the airport soon after. The airport has been built by the International Airports Authority of India (IAAI).

Brigadier Abu Baker Yunus, C-in-C of Armed Forces of Libya, who inaugurated the airport, presented a plaque in appreciation of the excellent work done to Mr. B.S. Das, Chairman, International Airports Authority of India.

The Rs. 430 million project included construction of 3,600 metres long main runway, a secondary runway 15,000 metres long, a parallel taxi track and main apron. The National Building Construction Corporation are IAAI's construction associates in that country.

The Authority is now constructing a terminal building for the Ghat airport which it had designed earlier.

Including the airfield pavement works at Ghat now completed, IAAI has a total of Rs. 770 million airport consultancy and construction works at Ghat and Brak. The project has been completed against heavy odds by 200 technicians working on the project since 1976. It is a highly mechanised project and has been completed on time with the help of highly sophisticated construction machinery.

Another airport project the Authority has in Libya is at Brak, north of Sebha, the third largest city in the country. The Rs. 220 million project

sector road schemes in any one single year since the commencement of the Five Year Plans. (Page 8)

Traffic at International Airports Up

An increase of 16 percent in passenger traffic has been recorded during 1977-78 over the previous year by India's four International Airports at Delhi, Bombay, Calcutta and Madras. As many as 8.65 million passengers were handled during this year as compared to 7.47 million during 1976-77. During 1977-78, the cargo handled at the four airports was 148,000 tonnes registering an increase of 16 percent over the previous year. (Page 7)

No Levy on Hand Made Carpets

No excise duty is payable on hand made carpets and the new levy on floor coverings is restricted to machine made carpets, carpeting and rugs. Carpets produced by manually operated looms and with the help of manually operated implements, used independently by hand, such as hooking guns, tufting guns and knitting guns have been exempted from the new levy on floor coverings.

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includes construction of 3,600 metres long runway, along with taxi and other airfield pavement areas, power station and fuel tanks.

The IAAI has developed the necessary infrastructure to provide consu and engineering works, services required for various aspects of mo airport construction. The Authority has at present Rs. 1,000 m workload in India and abroad.

Apart from the works in Libya, IAAI has a contract of building the H airport at a cost of Rs. 86 million and a consultancy project for the N airport in Tanzania.

BHEL Exports Largest Transformer

The successful testing of the first 150 MVA, 13.8/220 KV generator t former for Tripoli west power station of Socialist Peoples Libyan Jamahiriya, has marked yet another milestone in the history of ex market of Bharat Heavy Electricals Limited (BHEL). This is the bi capacity transformer ever exported from India.

The complete testing was witnessed by 'ITENG' Inspector, the autho representative of Consultants, M/s Kennedy and Donkin of UK for Tripoli West contract.

The scope of transformer supply against the Libyan contract whic India's first biggest engineering export order on turn-key basis inclu 2 Nos—150 MVA, 13.8/220 KV generator transformer, 2 Nos—25 M 220/6.45 KV station auxiliary transformers and 2 Nos — 12.5 M 13.8/6.3 KV unit auxiliary transformers.

The generator transformers will step up the generating voltage to 220 and will serve as the main power source for Tripoli, the capital of Libya.

The transformer core is of 5 limbed construction and is built with hig grade cold rolled grain oriented silicon alloy steel and weighs about tonnes including the clamping structure.

The low voltage winding is of helical construction, consisting of seve parallel conductors of rectangular cross-section. Transpositions have b introduced throughout the winding at regular intervals to ensure that leakage flux linkages of each strand is same, so as to reduce the circulati current stray-loss.

The high voltage winding is multilayer electrostatically shielded type a has graded insulation throughout the length of the coil, dependi upon the impulse voltage distribution. The square root of ratio of grou to series capacitance of the coil has been achieved as close to unity as pra ticable. The tappings at the neutral end forms a separate layer and is interwound spiral construction and virtually acts as an electrostatic shie at the neutral and of the winding, thereby reducing the transferred surg appearing on the LV winding.

The tank is of the "bell" shape construction with an oil tight bolted flang joint near the base. During inspection and maintenance, it is possib to lift the upper portion of the tank to provide access to the core and coi and carry out maintenance end inspection of the transformer at the spo This eliminates the requirement of heavy duty crane. The bell type t tank construction calls for fabrication skill of the highest class to ensur a leakpro of bell joint, on which the entire oil head in the transformer acts

The total assembly weight of the transformer alongwith cooling equipment and oil is 206 tonnes. The largest package i.e. transformer in tank for transport, weighs 123 tonnes, gas filled and has been designed to suit the profile of 130 tonner BWS well wagon.

All materials and components required for the manufacture were checked/tested for quality as per international standards before use, in the transformer. Testing was done at various stages of manufacture to ensure quality. Core loss and measurement of no-load current was done on the completed core. Load losses, ratio-test and impedance voltage measurement were done on winding at reduced load before formation of terminal gear. A preliminary RSO test confirmed that expected impulse levels of the various parts of the windings were within the design limits. All other necessary inspection checks and tests were carried out in line with detailed quality surveilance plans.

India's Balance of Payments

According to the Economic Survey of the Government of India for 1978-79, the country's foreign exchange reserves (excluding gold and SDRs in which variations are marginal) rose further in 1977-78 by Rs. 18,850 million without taking account of transactions with the International Monetary Fund (IMF). In the current year, the growth in reserves has slackened and by January end 1979, they showed an increase of Rs. 7,940 million as against a rise of Rs. 13,450 million in the corresponding period of 1977-78.

The improvement in the external payments position since 1975-76 continued during 1977-78 in spite of the re-emergence of a trade deficit in the year. Exports during the year amounted to Rs. 53,740 million showing an increase of 4.5 percent compared with an increase of 27.2 percent during 1976-77. Imports on the other hand amounted to Rs. 60,660 million showing an increase of 19.6 percent in contrast to a decline of 3.6 percent in the previous year. As a result, a trade deficit of Rs. 6,930 million emerged during 1977-78 in contrast to a modest surplus of Rs. 690 million in 1976-77. Net inflow of external assistance during 1977-78 was lower at Rs. 4,670 million compared with Rs. 8,440 million in the previous year. Despite these movements in trade and aid receipts, the country's foreign exchange reserves recorded a rise of Rs. 18,850 million during 1977-78, due to continued buoyancy in invisible receipts. During the year the country also repaid to the IMF Rs. 2,490 million by way of repurchases of gold tranche and credit tranche drawings.

According to the balance of payments data available at present up to December, 1976, there was a surplus of Rs. 9,300 million in 1976 in current invisible transactions compared with that of Rs. 5,200 million in 1975 because receipts increased by 42 percent and payments by only 17 percent. Private transfers was the largest single item. These receipts at Rs. 9,960 million showed an increase of Rs. 2,330 million in 1976 while payments at Rs. 70 million were nominal. Travel was the other major item, receipts under which improved over the year 1976 to Rs. 2,560 million compared to Rs. 1,650 million in 1975. This was due mainly to a significant increase in the number of foreign tourists visiting India and higher per capita tourist expenditure. Under transportation, the net surplus increased from Rs. 470 million in 1975 to Rs. 780 million in 1976. This was broadly in line with the growth of merchandise trade and travel. Investment income receipts in 1976 increased by Rs. 660 million to Rs. 1,750 million because of the growing volume of earnings from our foreign exchange reserves. Investment income payments on account of interest, profits and dividends fell by Rs. 110 million and there was a significant reduction in the net deficit on this account from Rs. 2,130 million in 1975 to Rs. 1,350 million in 1976.

There is every reason to believe that these trends have continued in subsequent years also. The number of Indians who have gone out to work abroad, particularly to the Gulf countries, has increased and so have their remittances, Tourist traffic has also grown partly because of the efforts made by Indian authorities to attract such traffic. This has meant a larger volume of foreign exchange earnings. Finally, since the volume of foreign exchange reserves has increased continuously the earnings from these have also grown steadily.

During the current year the trends in merchandise transactions and invisibles noticed in 1977-78 have continued. According to provisional data from Director General of Commercial Intelligence and Statistics (DGCI&S), exports during April-November 1978 amounted to Rs. 33,920 million while imports were valued at Rs. 41,210 million resulting in a deficit of Rs. 7,290 million as against a surplus of Rs. 720 million in April-November, 1977. In spite of the sharp rise in the trade deficit foreign exchange reserves have shown a further rise, due to continued favourable trends in invisibles. During the current financial year upto January 31, 1979 the reserves, exclusive of transaction with the IMF, showed a rise of Rs. 7,940 million compared with that of Rs. 13,450 million during the same period in 1977-78. The

contry has also repaid Rs. 2120 million, representing the only outstanding IMF credit to India on account of the 1975 Oil Facility, thus ending its indebtedness to the IMF.

During June 1978, the Reserve Bank of India (RBI) purchased 25 million grams of gold from the IMF worth Rs. 1,230 million through a non-competitive bid at the Gold Auction held by the Fund. Besides, in December 1978, there was a further restitution of gold by IMF to its members and India's share amounted to a little more than 6 million grams. At the Reserve Bank's statutory holding price the gold purchased by RBI is worth Rs. 210 million and that received by way of restitution is worth over Rs. 50 million. The country's gold reserves, thus, stand augmented by these amounts. There was also an increase in India's SDRs holdings during the year. As a step, in a major package of measures, intended to strengthen the SDR and provide the Fund with adequate resources over 4 billion SDRs have been allocated to 137 participating members of the Fund. India's share in this allocation is SDRs 119 million.

The rupee continued to be linked to a basket of currencies of India's major trading partners and the pound sterling continued to be the intervention currency. As in the previous year, during the current year also, the middle rate of the rupee was adjusted from time to time due to fluctuations in the value of the basket of currencies; the latest adjustment was on December 20, 1978 when the middle rate was fixed at Rs. 16.50 per pound. In view of the wide fluctuations in international currency markets recently, it has been decided, effective January 30, 1979, to maintain exch rate of the rupee within a wider ma of 5 percent as against the prev margin of 2.25 percent on either si

Indo-Canadian Trade Trends

According to an economic and c mercial report of the Consu General of India, Toronto, during year 1978, the total imports f India into Canada were C$ 65,117, as against C$ 55,677.056 for the y 1977 i.e. an increase of 2 perc There have been increases in exp of carpets and rugs, textiles, leather a leather goods, sports goods, hand rafts, fruits, vegetable and food p ducts, precious stones/jewellery a basic chemicals, pharmaceuticals a allied products, as will be seen fr the breakup given below :

Commodity	*Jan-Dec. '77* C $	*Jan-Dec. '78* C $
Jute/Jute goods	6,704,408	6,405,682
Carpets and rugs	2,035,912	3,283,290
Textiles	13,181,512	19,971,971
Engineering goods	5,708,066	5,901,078
Leather and Leather goods	1,829,594	4,911,195
Footwear	2,354,404	2,267,912
Sugar and sugar candy	11,479	35,373
Tea	7,957,291	3,558,709
Coffee	245,924	2,558,951
Sports goods	265,833	378,736
Handicrafts	495,234	757,018
Furs and animal products	11,833	14,510
Spices	3,336,667	3,007,094
Nuts	6,932,760	2,772,527
Marine Products	169,357	17,770
Fruits, veg. & food products	632,762	906,813
Precious stones/jewellery	932,765	1,978,619
Tobacco	6,770	7,300
Basic chemicals, pharmaceuticals and allied products	1,603,502	1,712,279
Miscellaenous	1,078,098	1,801,134
Goods returned within 5 years	182,883	2,869,457
Total imports from India	55,667,056	65,117,418

dia's imports from Canada also istered an increase of 85 percent m C$ 135.06 million in 1977 to 45.80 million in 1978. Major ms imported from Canada during 78 were : rapeseed (C$ 69,643,746), wsprint paper (C$ 41,306,696), rape-d oil (C$ 30,177,580), wood pulp $ 19,537,213), potassium chloride, uriate (C$ 17,970,467), asbestos, lled fibres group (C$ 14,824,604) nc (C$ 8,431,158), sulphur (C$ 219,140), man-made fibres (C$ 532,986) and chemicals (C$3,625,501)

r. A.C. Abbott, Minister of National evenues and Minister of State for nall Business, led a Ministerial Trade elegation to India in January, 1979. composed of senior business execu-tives from 14 Canadian companies nd senior officials from the Federal linistry of External Affairs, Depart-ent of Industry, Trade and Com-erce and Canada's International evelopment Agency. The main urpose of this delegation was to xplore possibilities of marketing phisticated equipment in the field of ining, industry, power generation nd transmission, telecommunica-ons and hotel architecture. While in elhi, Mr. Abbott met the Prime linister, Minister of Commerce, linister of Industry and Minister of ommunications. The members of ne delegation met both the public nd private representatives of those ectors and industries which are of ommon interest to Canda and India. t was agreed, in principle, to establish rade and economic cooperation and o diversify the two-way trade patern. his agreement would go a long way o develop economic relations between he two countries and the exchange of rade delegations. The two sides xpressed the need for strengthening heir cooperation in the field of industrial collaboration, including the setting up of joint ventures in third countries. The possibility of Canadian firms associating with Indian companies as sub-contractors for some of the projects undertaken by them in developing countries was also discussed.

Two trade missions would follow Mr. Abbott's ministerial mission; the industries to be covered by these missions would include a Joint Consulting and Construction Mission and a Rape-seed Trade Mission. Canada would also participate in the International Trade Fair to be held in New Delhi in November, 1979. As for India, the Chambers of Industry and Commerce would plan to send a Trade Development Commission to Canada during 1979.

India's Trade with Japan

India's exports to Japan rose by 4.7 percent to US$ 670 million during the period April 1978—January 1979 from US $ 640 million during the corresponding period in 1977-78, according to a commercial and economic report of the Embassy of India, Tokyo. India's imports from Japan also rose by 40 percent to US $ 633 million during the above period in 1978-79 from US $ 452 million in the corresponding period of 1977-78. Thus, the two-way trade between India and Japan grew by 20 percent to US$1302 million during the above period in 1978-79 from US$1092 million in the corresponding period of 1977-78.These figures are based on the Japanese preliminary statistics.

Export performance of the main items of Indian exports to Japan in April-December, 1978 vis-a-vis April-December 1977 is given at the next page.

India's imports increased much due to the liberalised import policy of the Government of India and considerable shipments from Japan to India under Yen Credit. On the other hand, the main reason why India's exports rose by small margin comparatively was that iron ore exports comprising one-third of total Indian exports to Japan had a setback due to sluggishness in Japanese steel industry. Besides, sharp appreciation in Japanese Yen value made Japanese exports dearer and Japanese imports cheaper.

The Government of Japan agreed recently to extend a grant aid to India in yen equivalent to Rs. 125 million approximately as a debt relief measure.

The grant has the effect of reducing the interest paid by India during 1978-79 on all loans extended by Japan since 1958 to a rate of 3 percent per annum, which is the interest rate currently being charged by Japan on its latest loans to India. The earlier loans had been extended at a higher rate of interest.

The grant aid is generally untied and will be used to cover payments by India for imports of goods like machinery, components, attachments, spares, raw materials, steel products, chemicals fertilisers and such other items as may be mutually agreed upon.

The grant aid is extended in compliance with Resolution 165, on debt relief measures, of the Trade and Development Board of UNCTAD.

Indo-UK Financial Pact

India and the United Kingdom signed recently in New Delhi an agreement for a British grant of Rs. 337.50 million (£ 20.089 million) for local costs of agreed Indian projects and programmes.

The grant is in pursuance of the

Main Items of India's Exports to Japan

(CIF in US $ 10

Commodity	*April-December* 1978	*April-December* 1977	*Percentage increase/ Decrease*
Engineering goods	2,308	1,492	+ 54.
Basic Chemicals, pharmaceuticals, cosmetics etc.	7,449	7,184	+ 3.
Finished leather and leather products	16,419	12,280	+ 33.
Handicrafts	1,184	780	+ 52.
Gems & Jewellery	66,055	39,476	+ 67.
Coir products	211	270	— 21.
Jute manufactures	13,184	11,900	+ 10.
Sports goods	34	22	+ 54.
Hand-knotted carpets	314	37	+ 748.
Unmanufactured tobacco	11,376	11,371	+ 0.0
Cotton raw	5,795	6,089	— 4.8
Fabrics (Cotton)	2,595	1,255	+ 106.8
Spices	3,161	4,601	— 31.3
Garments	13,383	5,272	+ 153.8
Shellac	84	81	+ 3.7
Iron Ore & Concentrates	199,086	240,608	— 17.3
Ore & Concentrates (non-ferrous base metals)	16,418	19,439	— 15.5
Marine Products (Frozen shrimps, etc.)	145,699	102,730	+ 41.8
Cashew	12,414	12,163	+ 2.1
Feed-stuff for animals	1,515	12,010	— 87.4
Wood, lumber & Cork	8,613	5,182	+ 66.2
Tea	3,039	2,904	+ 4.6
Coffee	3,351	5,506	— 39.1

Main Items of India's Imports from Japan

(US $ in million

Commodity	*April-December* 1978	*April-December* 1977	*Percentage increase/ Decrease*
Iron & Steel articles	143.8	99.8	+ 44.1
Ships & boats	49.4	46.0	+ 7.4
General and electrical machinery	113.7	75.6	+ 50.4
Man-made fibres	85.1	63.6	+ 33.8
Artificial resins and plastic materials including polyethylene etc.	19.7	20.0	— 1.5
Vehicles other than railways etc.	18.4	12.3	+ 49.6

greement signed on January 25, 1979 or annual commitments by UK of ocal costs aid in lieu of debt relief o India, and represents the first-ever ommitment by UK of this aid.

The amount of Rs. 337.50 million is to be utilised for covering a part of refinance disbursements of the Agricultural Refinance and Development Corporation and for meeting local costs associated with the installation of gas turbines by the West Bengal State Electricity Board.

Speaking on the occasion, Mr. R. N. Malhotra, Additional Secretary, Ministry of Finance thanked the Government of the UK for this generous grant. He added that the relationship between India and the UK was much deeper than economic ties and hoped that cooperation between the two countries would grow even further in years to come.

Mr. M. K. Ewans, the British Deputy High Commissioner said, "the growth of our normal aid programme to India and the decision to make local cost funds available demonstrate the British Government's continuing commitment to India's development programme, and reinforces Britain's position as the largest bilateral aid donor to India".

It may be recalled that this is the first of 22 annual grant agreements to be signed between now and the end of this century, which will make available in total £ 565 million, (Rs. 9490 million), to help finance the rupee costs of Indian development projects and programmes. The British Government's decision to make these funds available to India was announced by Mrs. Judith Hart, the British Minister for Overseas Development, on July 31, 1978, and is part of a move to relieve a number of countries, including India, of the debt burden arising from past official loans from Britain.

The recent agreement is in addition to the grants totalling £ 145 million (Rs. 2392.50 million), pledged by the Government of UK at the last Consortium meeting in Paris and signed on January 25 by Sir Peter Preston, Permanent Secretary of the British Ministry of Overseas Development, and Dr. Manmohan Singh, Secretary, Department of Economic Affairs, Government of India.

Traffic at International Airports Up

India's four International Airports at Delhi, Bombay, Calcutta and Madras recorded an increase of 16 percent in passenger traffic during 1977-78 over the previous year. As many as 8.65 million passengers were handled during this year as compared to 7.47 million during 1976-77.

According to the annual report of the International Airports Authority of India (IAAI), for the year 1977-78, the cargo handled at the four airports was 148000 tonnes registering an increase of 16 percent over the previous year.

The Airport Authority earned Rs. 95.7 million in foreign exchange from landing and parking charges from foreign airlines during 1977-78 as compared to Rs. 62.5 million last year.

The report adds that the capital expenditure of the Authority for the four airports was Rs. 104.2 million during 1977-78, as compared to Rs. 60 million during last year. The Airport Authority had invested over Rs. 340 million on airport works and equipment during the past six years. Out of which Rs. 217 million had been met out of the internal resources of the Authority and the balance received from the Government as budgetary support. During the year 1977-78 the Authority generated internal resources to the tune of Rs. 62.4 million.

According to the report, the revenue of the Authority increased to Rs. 214 million as against Rs. 139.5 million in the previous year. Net profit after tax was Rs. 29 million as against Rs. 9.1 million only last year.

The Airport Authority had Rs. 950 million work-load in respect of airport consultancy and construction in India and abroad during 1977-78. The Airport Authority signed an agreement with the Government of Maldives for Rs. 86 million work at the Hulule Airport. Similarly, a consultancy work for designing runways, taxi-ways and apron and airport lighting system for Mafiia Airport was awarded to the Authority by the Government of Tanzania.

The Airport Authority completed the first phase of setting up the cargo terminals at Bombay and Madras Airports. Construction of the Bombay international passenger terminal started during the year. It is scheduled to be completed in 1980. With the completion of this terminal, the present terminal will handle only domestic traffic.

The report also adds that the Government of Jammu and Kashmir engaged IAAI as consultants for setting up a cargo complex in Srinagar. Hindustan Aeronautics Limited accepted the IAAI design for the Bangalore Airport for upgrading the airfield area for use by heavy jet planes.

Special Discount on Indo-Nepal Air Travel

A special 30-day individual round trip excursion fare between Delhi and Kathmandu, and Calcutta and Kathmandu has been introduced by Indian Airlines.

A 30 percent discount on the round trip fare between these points will be extended to Indians, Nepalese and diplomatic personnel, all residing either in India or Nepal. This concessional excursion round trip fare will be available for travel between these two neighbouring countries till September 30, 1979.

The airline has introduced this concessional fare between these points in India and Nepal to attract tourist traffic on these sectors during the lean season. This round trip fare will be applicable for travel between Delhi and Kathmandu, Calcutta and Kathmandu or Delh-Kathmandu-Calcutta both ways.

While the fares for Indians and Nepalese nationals can be paid in Indian rupees or Nepalese currency, for diplomatic residents the fare is payable in US dollars or any other convertible currency.

The discounted return fare for travel between Delhi and Kathmandu will be Rs. 793 as against Rs. 1,132 and between Calcutta and Kathmandu will be Rs. 527 as against Rs. 752 at present. The tickets will be issued in India and Nepal by Indian Airlines and their travel agents.

Metalwork '79 Exhibition, Singapore

An International Fair Metalwork'79 projecting metal products will be organised at Singapore by Messrs Expofab Private Limited, Singapore during September, 1979. To encovrage the Indian participants the organisers have offered a discount of 30 percent for the rent of the booth space. This gesture has been extended with a view to attracting India's participation in this exhibition and Indian companies who wish to penetrate the South-East Asian market may avail of the opportunity by participation in the Metalwork'79. By this concession, Indian companies will have to pay only S$ 17.50 per sq. ft. instead of S$ 25.00 per sq. ft. for the space.

Interested members from this trade may ask for the participation forms from Messrs Expofab Private Ltd., 507, 5th floor, Sin Chew Jut Poh Building, 19, Keppel Road, Singapore-2, under advise to the High Commission of India, 31, Grange Road, Killiney Road, P.O. 92, Singapore.

Industrial Growth and Diversification

Massive Road Development Underway

Massive development of roads is underway to give the country a more wellknit and a better coordinated transport system. A sum of Rs. 1450 million is likely to be utilised on various road schemes including the development of National Highways during 1978-79. This is the largest ever outlay provided for central sector road schemes in any one single year since the commencement of the Five Year Plans. The total length of roads in the country is estimated to be 1.48 million kilometres by March 1979 as against 1.215 million kilometres in March, 1975. Of this, 530,000 kilometres are surfaced roads.

According to the annual (1978-79) of the Ministry of Sh and Transport, several major p were completed during the year ding Rs. 50 million—bridge ov Gangadhar River in Assam an bridges, costing about Rs. 10 m over Don and Malaprabha in K taka. Different works of improv of geometrics covering remov sharp curves and steep gradient replacemnt of existing level cro in congested sections by bridges also undertaken.

Many projects are at various s of implementation. These include Coast Road in Tamil Nadu, co highway in Gujarat, Subaranar bridge and its approaches in Or bridge over Sutlej in Punjab Kabini bridge in Karnataka. In a tion a major bridge over Yam near Palwal in Haryana has b sanctioned. This will lead to promo of inter-state trade and traffic betw Uttar Pradesh and Haryana.

The Border Roads Organisation working on a sustained program for the development of certain ro in the north and north-eastern Sta This programme, when complet will provide road links to far-flu areas and bring them in the natio mainstream. In all, the Organisati is maintaining 12,708 kilometres roa at present.

The Ministry has decided to resu the river services operated by t Central Island Water Transport Co poration between Calcutta and Assa These had been discontinued duri the previous year on account of u economical operations.

A Model Ferries Bill has been prepare keeping in view the loss of huma life due to accidents to ferry vessel

has been circulated to the State vernments for adoption.

e report points out that works improvement to Champakara Canal an estimated cost of Rs. 24 million expected to be completed by end of 1979 to handle an anticited volume of traffic of 1.5 million nes per year. Similarly, works for ry service on the Hooghly river to rry an estimated passenger traffic about 50,000 are expected to be ady by December, 1979. To provide y docking facilities in Assam, field vestigations for a slipway in Gauhati ve been sanctioned. Hydrographic rveys in the Sunderbans are also ing taken up.

ne hundred and three research ojects including 39 consultancy assiments were underway at the Central oad Research Institute during the ar under review. Some of the impornt research projects under investiation included the development of ecifications for construction of roads n expansive soil sub-grades, evolving ecifications for rural roads, study f properties of cement-flyash concrete ixes, rating of highway bridges and nprovement of road signs.

he Ministry has set up a Steering roup to deal with the problem of odernising the bulluk cart. Following he Group's recommendation, a comrehensive socio-economic survey of ulluck-cart transport has been initiated ll over the country and a scheme or a new design of the bulluck cart s under consideration. Research on raught power and road design is lso envisaged under this programme.

Improved Performance of Heavy Industry Units

The public sector undertakings (PSUs) under the control of the Department of Heavy Industry, Union Ministry of Industry, representing a total investment of Rs. 9,000 million and employing about 1,60,000 persons, are estimated to produce goods worth Rs. 10,600 million during 1978-79, besides the anticipated turnover of Rs. 1250 million by the Engineering Projects (India) Limited (EPI), a consultancy-cum-construction company. The target of production for the next year is placed at around Rs. 12,700 million.

According to the annual report of the Union Ministry of Industry for 1978-79, the production units put together are expected to make a profit of about Rs. 280 million during the year as against a net loss of Rs. 97 million incurred by them during 1977-78. With the measures in hand to improve the working of these units, the estimated profit during the next year (1979-80) would be of the order of Rs. 540 million.

The total production by these undertakings during the first ten months (April 1978 to January 1979) of the financial year, was of the value of Rs. 8170 million, marking an increase of 31 percent over the output valued at Rs. 6230 million in the corresponding period last year. In addition, the turnover of EPI during the same period was of the value of Rs. 810 million as against Rs. 500 million in 1977-78.

As a result of the continued efforts by the public sector undertakings, the number of ancillaries during the year is estimated to increase to 332 from 290 in 1977-78 and 283 in 1976-77. The turnover of the anciallary units during the year is expected to be Rs. 145 million.

Apart from the ancillaries, about 500 small scale industries are registered with these PSUs for supplying various items including steel castings, iron castings, steel forgings, sheet metal works and machined components.

Some of these undertakings have emerged as major exporters in their respective sectors, for instance Bharat Heavy Electricals Limited (BHEL) in respect of power generation and transmission equipment, Heavy Engineering Corporation (HEC) in metallurgical equipment, Hindustan Machine Tools (HMT) for machine tools and the Engineering Projects (India) Limited (EPI) for construction projects. The PSUs executed export orders worth Rs. 1140 million during the first eight months (April to November) of 1978-79 exceeding the similar orders of Rs. 1030 million executed during the entire year of 1977-78.

Record Production of Locomotives in DLW

The Diesel Locomotive Works (DLW) of the Indian Railways has set up an all-time record by turning out 150 engines during the year, April 1978 to March, 1979, bettering the earlier record of 140 engines.

The out-turn of 130 complete locomotives during the year is also a new record exceeding the earlier record of 120 locomotives.

In money terms, the production at the DLW during 1978-79 was of the value of Rs. 547 million.

The Diesel Locomotive Works is producing locomotives not only for the Indian Railways, but also for the Steel Plants in the country.

The DLW has enough orders to fully utilise its capacity for the next three years. Plans are being drawn up to expand its annual capacity from 150 to 200 engines.

Greater Outlay for Rural Areas

The aggregate plan outlay for 1978-79 has been placed at Rs. 116, 500 million which is 16.7 percent higher than the total outlay of 99650 million fixed under the 1977-78 Annual Plan which has been circulated to the Parliament. This is to be financed by stepping up of domestic budgetary resources from Rs. 76,850 million in 1977-78 to Rs. 92,570 million in 1978-79. Utilisation of external assistance is also expected to increase from Rs. 9820 million to Rs. 13,220 million. The balance of the Plan outlay amounting to Rs. 10,710 million in 1978-79 is proposed to be covered by deficit financing.

The broad pattern of distribution of the outlay is that Agriculture and allied programmes get Rs. 17457.6 million; Irrigation and Flood control—Rs. 11606 million ; Power—Rs. 21968.6 million ; Village and Small Industries —Rs. 2194.5 million ; Industry and Mining—Rs. 24135 million; Transport and Communications— Rs. 17942.3 million ; Social Services and others—Rs. 21203.7 million.

In addition to the provisions made in the Plan for investment, credit facilities are also to be extended to the farmers on a larger scale. Short and medium-term credit from the cooperative credit institutions are targeted to increase from Rs. 14350 million in 1977-78 to Rs. 17950 million in 1978-79, and long-term cedit to agriculture should increase from Rs. 2910 million in the previous year to Rs. 4320 million. As against Rs. 2340 million in 1977-78 disbursements by ARDC during 1978-79 are expected to be Rs. 3250 million. The provision for rural electrification has been raised from Rs. 1750 million in 1977-78 to about Rs. 2720 million in 1978-79.

Of the enlarged outlay of Rs. 21945 million for village and small industries nearly 2/3rd has been allocated for employment-intensive programmes such as handlooms, khadi and village industries handicrafts, and sericulture. The outlay for small scale industries is also proposed to be stepped up from Rs. 433 million to Rs. 734 million i.e. by about 70 percent.

A notable feature of the Annual Plan is the step-up in outlay for meeting the basic needs of the rural poor. For the Revised Minimum Needs Programme Rs. 5246.4 million has been provided in the Plan of States and Union Territories besides, an outlay of Rs. 695 million in the Central Plan.

The Annual Plan for 1978-79 was formulated against the background of relative price stability, comfortable stocks of foodgrains with the public agencies and a satisfactory level of foreign exchange reserves. The size and structure of the Plan, and the production targets in key sectors were determined on a realistic basis, keeping in view the likely availability of resources as well as the imperative need for stepping up the level of investment in the economy in accordance with the strategy of the new Five Year Plan.

Giving this information the Annual Plan for 1978-79 and Review of Plan Performance 1977-78, says that the country's gross domestic product is likely to increase by around 4.0 percent in 1978-79. This assumes 1.5-2 percent growth in agricultural production and about 7 percent growth in the industrial sector. Although a significantly higher growth rate could be hoped for in the indus mining sector, the increase cultural output, even with fav monsoons, could not be exp show a large increase over th levels achieved in 1977-78.

Production of foodgrains re record level of 125.6 millior in 1977-78. This resulted in the procurement of both wheat a However, due to higher offta the public distribution syst million tonnes in 1977-78 agai million tonnes in 1976-77, st foodgrains with the public a declined from 18.0 million on April, 1977 to 15.4 million on March 31, 1978.

Production of raw cotton in 1 showed an increase of some million bales over the product 5.8 million bales in the pre year though it still remained the 1974-75 level of 7.16 m bales. However, together with opening stock and imports of the supply position was quite co able during 1977-78.

The combined output of jute mesta at 7.099 million bales in 19 was marginally higher than million bales in the previous The output of five major oil which had declined from 9.9 mi tonnes in 1975-76, to 7.8 mi tonnes in 1976-77, went by a 1.1 million tonnes in 1977-78. Su cane production was well in e of the previous year's record produc of 153 million tonnes.

There was a decelaration, howe in the growth rate of overall indus production in 1977-78, on acc of power shortage in some ar inadequate supplies of certain in and industrial unrest. The index

ustrial production moved up by percent only, as against 9.5 percent 1976-77.

oduction-wise analysis of output trends wed that while in a few industries re was a fall in production (inclu- g semi-finished steel, aluminium, icles, textiles machinery and certain gs) ; industries such as salt, phos- atic fertilizers, diesel engines, boilers d detergents recorded over 20 per- t growth, and the output of mmodities such as flour and infant d, products like radio receivers and or blades, and railway equipment reased between 10 percent and 20 rcent.

against an increase of 12 percent the index of wholesale prices during 76-77, the index at the end of March 78 was almost at the same level a year ago. At the end of the year prices of several essential commo- ies such as rice, edible oils, sugar, and vegetables were lower than the beginning of the year. The olesale prices of oilseeds and raw ton also declined during the year. though wholesale prices remained rly stable during 1977-78, there s about 3 percent increase in the nsumer price index which was due the sharp increase in the prices pulses and moderate increases in ices of coarse grains and cotton oth.

om a small surplus of about Rs. 0 million during 1976-77 the untry's trade balance swung into sizeable deficit of Rs. 6900 million 1977-78. However, due to the ntinued flow of inward remittances, e foreign exchange reserves increa- l further by Rs. 16370 million and od at about Rs. 45,000 million at e end of March, 1978.

World Bank Appreciates Agricultural Priority

The World Bank has concurred with the priority accorded by the Government of India to agricultural development. This was conveyed recently in New Delhi by the Vice-President of the World Bank Dr. W. D. Hopper to the Deputy Prime Minister and the Minister of Finance, Mr. Charan Singh.

On behalf of India, Mr. Charan Singh reiterated that there would be no going back on the Government's policy of according agricultural and rural development the highest priority in all their development plans.

Dr. Hopper informed the Deputy Prime Minister that during the last four years, the World Bank had provided a total credit of about Rs. 60,000 million to India and out of this about 25 percent was for agricultural development. The World Bank had proposals under which, during the next five years, they anticipated a total credit of about Rs. 80,000 million to be extended to India. It was their hope that out of this amount, about 42 percent would be utilised for the development of agriculture, specially irrigation. Other areas they were willing to assist were fertilizer production, afforestation, processing etc. He said that the World Bank totally approved the present policy-mix of the Government of India in regard to the economic development of the country. They were in agreement with the proposals to accelerate rural electrification, transport and storage facilities. The Vice-President of the World Bank envisaged as far-reaching the future outlook of co-operation between India and the World Bank.

The Deputy Prime Minister, informed Dr. Hopper that the Government of India was committed to the policy of according the highest priority to agricultural development. There would be no going back on this policy. He, however, pointed out that the rate of utilisation of international aid in the field of agriculture and rural development was bound to be slow because they had to deal with millions of farmers, whose holdings were very small.

On the question of the utilisation of agricultural surpluses, the Deputy Prime Minister drew the attention of the World Bank Vice-President to the excellent response the Food for Work Programme was receiving throughout the country. He had already made it clear that finance would not be a constraint for the further expansion of this programme. Till now they were supplying wheat for the people employed under this programme but now they had reached a position when they could make available rice to those employed under the programme. This programme was making a good impact, besides generating capital formulation in the villages.

Exchange Saving Through Import Substitution

As a result of import substitution, the country has been able to affect savings in foreign exchange to the tune of about Rs. 72 million during 1977-78. These savings are expected to go higher up in the coming years. The substitutions made by the small scale units have saved Rs. 18 million and the eight large scale units have saved Rs. 54 million. Out of the eight large scale units, three are in the public sector contributing to the extent of Rs. 38 million.

Over the years the country has made substantial strides in import substitution as is amply demonstrated by

the indigenous capability and expertise developed in various sectors. The import substitution efforts have been made through not only imported know-how but also through indigenous know-how developed in the R and D (Research and Development) institutions, industrial units and individuals. With a view to fostering and promoting import subsitution and saving foreign exchange the Government of India has been giving National Awards to industrial units. This national award for import substituion is given for out-standing performance in import substitution work through indigenous know-how only. The units who have developed the know-how indigenously and commercially manufactured and developed the item for atleast one year are only eligible to apply for this kind of award.

Thirteen small and eight large industrial units are the reci pients of the 1977-78 National Awards for Import Substitution.

Gold shields have gone to the Defence Electronics Research Laboratory, Hyderabad, and, M/s. Bharat Electronics Ltd., Bangalore for the manufacture of Secondary Surveillance radar Systems.

Silver shields have been lifted by M/s, Suri and Nayar Ltd., Bangalore, for the development of Flame proof Diesel Hydraulic Locomotive ; M/s. Stainco Enterprises Pvt. Ltd., New Delhi for the development of Spray Drying Plant ; and, M/s. Synthetic and Chemicals Ltd., Bombay fo Nitrile Rubber.

Bronze shields have been won by M/s. Bharat Earthmovers Ltd., Bangalore for development of 50 tonne trailor and 12 twin-wheeled tank transporter, M/s. Pratap Steel Rolling Mill Limited, Amritsar, for the development of flange and lock ring bars for automotive wheels ; M/s. Jyoti Ltd., Vadodara for the development of minimum oil outdoor circuit breakers 88 KV 750 MVA 1250 amps.

The small scale units that have won bronze shields are M/s. Micro Mechanical Works, Bombay for the development of 3-ply combined corrugating plant ; M/s. Swift Pvt. Ltd., Bombay for the development of Offset printing machine—model swift 150, M/s. S.A.J. Steel Pvt. Ltd., Bombay for water brake dynamometer, M/s. Rishiroop Polymers Pvt. Ltd. Bombay for the development of chlorinated rubber, M/s. Vasu Chemicals, Bombay for inhibitol-5, M/s. Indian Hydraulic Industries Pvt. Ltd., New Delhi for the development of commissary service van ; M/s. Production Tools Engineers, Bangalore for the development of various aircraft components like bulk lead connectors, drain valve, etc ; M/s. Blue Steel Engineers Pvt. Ltd., Bombay for a new type metal hardness tester ; M/s. Omnitech Engineers Private Ltd., Calcutta for reversing winch M/s. Walpha Industries, Bombay for the development of multi-disc wet type of electromagnetic clutches and brakes ; M/s. Kumar Chemicals and Pharmaceuticals Ltd., Karki Distt. North Kanara, Karnataka for the development of Kaolin light IP/BP ; and M/s. Niveditta Chemicals Pvt. Ltd., Bombay for the development of vitamin B2-5' phosphate sodium.

M/s. R. S. Raut Engineering Kolhapur has been awarded a Certificate of Merit for the development of various types of spiral wound metallic gaskets.

SAIL Makes Headway

Steel Authority of India Limited (SAIL) earned a profit of Rs. 292.6 million during 1977-78. The Hindustan Steel Limited (HSL), a subsidiary of SAIL till April, 1978, comprising the Bhilai, Rourkela and Du steel plants as well as Du Alloy Steel Plant (ASP), ea net profit of Rs. 467.8 millio providing for depreciation an charges. HSL's total profit in the profit of Rs. 397.6 million by Bhilai, Rs. 191 million by Ro and the Durgapur Alloy Plan 21.4 million.

The Metallurgical and Engin Consultants (India) Limited (ME made a net profit of Rs. 21.48 n during the year as aginast 9.16 r in 1976-77, accroding to the a report of SAIL relating to the p prior to the recognisation of which came into effect from M 1978. While the SAIL Interna earned a net profit of Rs. 44.1 m the profit of the Hindustan Steel Construction Limited (HSCL) i mated at Rs. 1.4 million. Fo exchange worth about Rs. 15.69 m was earned through the expo 736,000 tonnes of steel produc the SAIL International which booked during 1977-78 contract the export of 40,000 tonnes of Rolled (CR) sheets to the So Union, a highly sophisticated ma Another erstwhile subsidairy of SA the Metal Scrap Trading Corpora (MSTC) earned a net profit of 1.65 million.

National Mineral Developm Corporation's (NMDC) loss of 117.7 million is attributed to substantially lower offtake of iron by the overseas buyers following re ssion in the steel industry and time required for production build at the newly commissioned mi at Bailadila in Madhya Pradesh a Donimalai in Karnataka. Neverth the countryis foreign exchange earn from the export of iron ore fr NMDC mines rose to Rs. 670 milli

977-78 from Rs. 500 million in
-77.

overall profit of SAIL is seen
he background of the adverse
ational factors which affected pro-
ion in 1977-78, particularly in
Eastern Region, arising out of
uent, continued interruptions and
rictions in the supply of power
Bokaro and Durgapur, resulting
heavy production losses in these
nts, difficulties in coal supplies,
y in the commissioning of Blast
nace No. 3 of Bokaro and the
e at Dugda and Bhojudih coal
sheries in October, 1977. Thus,
aro, where production is yet to
olise, incurred a loss of Rs. 101
lion after providing for depre-
ion. But for these factors, the mar-
of profit for both SAIL and HSL
uld have been much higher. Towards
end of the last financial year
Blast Furnance No. 3 was commi-
oned, thereby virtually completing
1.7 million tonne stage of the
karo Steel Plant, and paving the
y for its further expansion to 4
lion tonnes and beyond. The setting
of the Cold Rolling Mill Complex
part of the 4 million tonne stage
Bokaro was also sanctioned during
e year.

nong the Research and Development
hemes completed by SAIL during
77-78 were the development of
gh-strength low alloy (HSLA) steel
Rourkela to meet the entire require-
nt of HSLA plates for the expansion
Bhilai, computerisation of billet
tting operations at Bhilai, leading
an increase in billet yeild by 0.5
rcent and yield evaulation of skelp
ill at Durgapur which reduced the
jection rate from 18 to 10 percent.

nportant new projects undertaken
cluded introduction of new techno-
gies in coke making to reduce prime
cooking coal consumption ; evaluation of bottom-blown oxygen steel making process at Durgapur ; coal dust injection in blast furnace to cut down coke rate, with a Protocol being signed between the Bhilai Plant and the Soveit Authorities for the deisgn and supply of a coal dust injection plant, a project which made considerable progress last year, and the setting up of a pilot plant at Ranchi for the development and adoption of the direct reduction process for the production of sponge iron using non-coking coal.

Following the restructuring the SAIL in May 1978, HSL, including Bhilai, Rourkela Durgapur ASP, as well as Bokaro, Salem Steel and SAIL International were merged in SAIL as an integral company. The Indian Iron and Steel Company became a subsidiary of SAIL, while MECON, HSCL, and NMDC which were subsidiaries of SAIL till April this year were transferred to the Central Government.

Science and Technology

Sophisticated Instrument for Monitoring Brain Disorders

An entirely indigenous instrument has been developed for continuous intracranial monitoring of pressure. This equipment is highly efficient, relatively inexpensive and includes telemetric equipment which is the first of its kind in India. The project has been sponsored by the Department of Science and Technology under its General Research Fund Scheme at the Institute of Neurology, Madas Medical College and Government General Hospital, Madras since February 1977.

Most of the Brain diseases or disorders are due to a critically raised tension inside the skull which is called intracranial pressure. Some of them like encephalitis (Brain fever), Brain tumour, head injury and paralysis stroke effect the brain directly and primarily. High blood pressure, liver diseases and poisoning affect the brain indirectly, or by remote effect. In all these, devastating result leading to death or disability is due to intracranial pressure.

Such a situation arises because the skull, contains the brain along with the volume of blood nourishing it and the volume of fluid (cerebrospinal fluid) which bathes and cushions it. The skull being rigid cannot expand to accommodate any abnormal mass like a tumour or blood or pus or other fluid in addition to what it normally contains. Any additional mass produced in the course of these diseases will raise the pressure inside the skull and can only be accommodated by displacement of some of all of the normal contents. In the first stage normal fluid is squeezed out and later blood supply to the brain is affected. In the third stage, actual compression and displacement of the brain tissues takes place. When the vital centres of the brain are affected by these pathological processes, loss of consciousness takes place leading to death or disability in the form of paralysis, loss of vision and loss of speech.

Since these diseases are common and mostly affect the able-bodied, bread-winning members of the society, proper management of these is, therefore, of great socio-economic importance. Rational management of these diseases requires the aid of continuous monitoring of the intracranial pressure.

This monitoring would enable the doctor to keep a constant watch on intracranial pressure and hence forecast the critical rise of pressure long before the brain sustains critical damage

This would help to assess the effect and hence accurately quantify the requirement of the various methods of treatment used to control the intracranial pressure. This is essential since inadequate treatment can be ineffective and unsuccessful while excessive treatment can be positively harmful to the brain.

Engineering Ingenuity

The super-human challenges posed by the nature to our engineers and technicians when they are building dams and power houses, the heart-breaks and the ingenuity they come to bear on the construction work would all be buried under concrete, steel and water, once the projects start functioning. The epic nature of the struggles of the men who construct these projects would come home only when these are seen while they are being built.

Nearly 160 kms away from Pathankot, two tributaries of Ravi, namely Baira and Siul, are being harnessed for power. Here, a natural catastrophe which delayed the completion of the work, is being taken advantage of. Baira river was to be diverted through a tunnel in order to build a weir, in a single season, across it. Two years ago a huge hill on its right bank caved into the river and clogged the diversion tunnel. Besides, the bed rock of the river on which the weir was to be built now lies buried at a depth of 52 metres from the present bed level. One apparent solution was to remove the slide deposits consisting of gravel, boulders, sand and pebbles. This would cost quite a sum. Instead, an improvisation proposed was to grout this material to create an impervious cut-off to prevent seepage of water, which would undermine the foundation. This cut-off would be created by drilling holes in a pre-determined pattern in the deposited loose material and to insert special casing pipes with rubber sleeves at small intervals. The drilling will be done with special equipment. While grouting (that is, treatment with cement, clay and some other chemicals) is an old and tried engineering technique, grouting of such type of materials is proposed to be done for the first time in India.

Indian Economy— Problems and Prospects

The Economic Survey, 1978-79 of the Government of India has broadly identified problems and prospects of the Indian economy in the context of its performance during the recent years. According to the Survey, the Draft Five Year Plan 1978-83, seems to have got off to a good start. The performance of the Indian economy during the current year has several aspects to be enthusiastic about. Although the growth of gross national product may not exceed 3.5 percent its several components have performed very well. The rate of growth of gross national product is moderate because growth in agricultural production is expected to be only marginal. It would naturally be difficult to improve upon the record growth rate of agriculture achieved in 1977-78. What is remarkable, however, is that even this peak will be marginally improved upon during the current year.

There is every reason to expect that the growth in industrial production during the current year will be around 8 percent. Capacity utilisation has improved significantly in a wide range of industries and in producer goods industries in particular. Power generation which used to be a bottleneck for increased industrial growth has gone up by as much as 12.9 percent.

The supply of basic produce such as steel, cement, no metals has increased because o domestic production and larger and this has helped investme year has continued to witness able price stability in spite of a increase in money supply. Inv in the economy has gone up still continue to invest a small declining part of our savings

Finally, a beginning seems been made in using the fore change reserves for develop fair part of the increase in in the current year is on acc developmental goods like ste ferrous metals, cement, machin components and fertilizers.

The satisfactory agricultural mance coming on top of a achievement in 1977-78 give for hope that Indian agricu entering into an era of stea reasonable growth. A right of instruments has been ass for achieving such growth viz. in irrigation, increased supply of o puts like fertilizers, pesticides a brid seeds, improved cultural p and a responsive extension research activity, a price system and a purchasing orga and increased credit availabili the banking system at reasonab of interest. The task in the seems to be extending the cover this package to areas which a covered at present and simulta increase its effectiveness, so that per unit of resource inves maximised.

The pace of expansion of irr needs to be maintained. Ther be no failure in achieving the irr target of 17 million hectares : 8 hectares under major and m

and 9 million hectares under works. The gestation period of and medium works needs to inimised because of the impor- of water availability to the h of agriculture. Similarly every ole help in terms of finance, ical assistance and power avail- y needs to be given to the deve- ent of minor irrigation because n add quickly to the irrigation tial. Also attempts need to be to ensure that the growth of irrigation takes place in those in which minor irrigation facili- have not grown sufficiently in of groundwater availability.

strial production has recovered ear over a wide range of indus- This seems to be due to the factors-continued high perfor- ce of the agricultural sector and nuous increase in the develop- al outlay of Government in the three years. With improving city utilisation it is necessary to ate in advance additions to capa- particularly in basic terms like r, coal, steel, cement, non-ferrous ls and fertilizers if shortages later to be avoided. Government has dy taken action in this regard everal fields. In power the prog- me in the Draft Five Year Plan large that it will add by the end March 1983 three-fourths as much rating capacity as at present. h year large additions to capacity been planned and are taking e. Similarly, licences have been n even to large houses for adding million tonnes of capacity for ent in the private sector ; and equal amount of capacity will be ed in the public sector in the t two years. At the same time a sion has been taken to encourage setting up of mini cement plants to use locally available relatively small deposits of lime stone. With regard to steel, vigorous action is being taken to set up one more steel unit in addition to the expansion planned in the exiting units. The same is true of fertilizer capacity.

It has been observed that over the years the capital-output ratio in the Indian economy is continuously rising. This only reflects the fact that an increasing volume of the economy's resources is being diverted to capital intensive areas like power generation fertilizer manufacture, petrochemicals irrigation, rural electrification etc. It also reflects the fact that the gestation period of these projects is very long in our country-much longer than elsewhere-so that more and more resources get locked up in the process of production without giving any return, a situation which a resource scarce economy like India can ill afford.

In 1977-78 and the current year the performance of the economy has been such as to enable a step up in the rate of investment in the economy. The increased development outlay in the last year and the outlay indicated in the budget in the current year would show that Government investment has been stepped up sizeably. As pointed out earlier, even the private sector seems to be undertaking more investment. Perhaps there is some truth in the contention that such investment is concentrated in a few major areas like cement, fertilizers, fibres, etc. However, the increase in industrial production in the current year and the increased utilisation of slack in many industries should persudade more people in the private sector to undertake investment. There is no doubt that investors' confidence is a delicate plant exteremly sensitive to uncertainties but by and large the basic factors in the economy point so clearly towards an increase in investment that confidence is bound to grow.

Monetary policy has been relatively successful in containing the impact of increased money supply on the price situation. Although money supply has increased by over 40 percent since the beginning of 1976-77, and will probably be close to 50 percent by the end of the current fiscal year, it cannot be denied that prices have been reasonably steady. This is partly due to imaginative supply management and partly due to a very tight credit and monetary policy. It must, however, be emphasised that if monetary expansion of this magnitude continues it will be difficult to entertain a hope that it will have no impact on prices. The success of the monetary policy has been partly due to a lack of inflationary expectation, brought about by adequate stocks of foodgrains and sugar and sizeable imports of edible oils, cotton and artificial fibres. Should there be a change in this situation due to a relatively poor harvest or an inability to maintain the level of the imports allowed in the past two years, the liquidity in the system can easily lead to an inflationary situation. It is, therefore, necessary to continue the restrictive credit policy pursued so far. It is even more important to ensure that a fiscal policy which results in large deficits which add greatly to the liquidity in the system, is not pursued.

The banking system has made further progress both in the mobilisation of savings as well as their deployment in accordance with social objectives. Although intially the growth of time deposits was slow, as if in reaction to the reduction in the rates of interest

on deposits it picked up in the later months and the credit-deposit ratio declined marginally despite substnatial growth in bank credit. The proportion of credit to the priority sectors has gone up although more needs to be done. Further efforts were made during the year to change the orientation of the banking system away from what might be called security lending and towards promotional lending. The transformation of outlook and training which is required for a substantial expansion of credit in rural areas is bound to take time. There is no alternative to unremittingly persistent efforts to convert banks from being unban-oriented lenders of money into agencies which will play an active role in the promotion of rural development.

The export situation has changed somewhat dramatically. While the rate of growth of exports had come down to 4.5 percent in 1977-78, during the current year it seems doubtful if they will cross last year's level. It is, therefore, necessary that efforts are concentrated on a strategy which will promote the continued growth of manufactured items and not rely on a boom in commodities like sugar, tea and coffee. It is important that the regime of export assistance evolved in the past is continued with modifications only where excessive assistance has been granted. It is also essential that such a regime is stable over a fair period of time. The manoeuvrability with regard to import policy enjoyed in the last couple of years shows the importance of having a policy which will promote a continuous and large growth in exports. While a policy of export-led growth may not be appropriate for a country of India's size and endowments there is little doubt that a growing export sector has an important role to play in domestic development. It is, therefore, necessary that of looking upon exports as they are looked upon as an part of the strategy of devel

Till now the policy has been to products whose production h surplus to domestic requireme port requirements have not entered the county's productio ning. Conscious efforts should made to develop production p both industrial and agricultural- will enable the export of a wide of goods. A greater emphasis o loping agricultural exports is n for it should not be forgott even to-day the bulk of India's consists of agricultural comm and agro-based industrial p This will also partly be an to the difficulties experienc account of the restrictions i by developed countries on s India's major manufactured ex

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economic and commercial news

ews Highlights

ecord DMT Production

ie Aromatics plant of the public sector dian Petro-Chemicals Corporation mited, Baroda, touched a new high 1978-79 when the DMT (Dimethyl rephthalate) production was 27,071 nnes compared to 25,556 tonnes in e previous year. The plant is worki g er its rated capacity of 24,000 tonnes r annum since 1976-77.

igher Production of Commercial ehicles

he production of indigenous manufacture commercial vehicles for the financial ar 1978-79 was 58,255 accounting for out 41 percent increase over the last ar's production of 41,244. This aug- ented production was achieved, not- ithstanding several constraints relating floods etc., because of special measures ken by the Industry and the Go- rnment.

range Star for Calcutta Airport

he International Federation of Airline ilots Association has raised the status of alcutta airport to Orange Star (Class I) om Red Star (Class II) at its meeting

(*Contd. on page* 2)

Export Performance and Potential

Indo-Mauritian Joint Commission Meets

Mr. Atal Bihari Vajpayee, Union Minister for External Affairs of India and Mr. Rabindrah Ghurburrun, Minister for Economic Planning and Development of Mauritius co-chaired the First Session of the Indo-Mauritian Joint Commission on Economic, Technical and Cultural Cooperation which co cluded at New Delhi, recently. Indo-Mauritian relations have entered a new phase as a result of the Joint Commission having laid down guidelines for strenghtening cooperation in trade and trade promotion measures, small-scale industries, agriculture and rural development, public transport, medical facilities, meteorology and tourism.

The Projects and Equipment Corporation of India (PEC) would assist the Mauritian authorities in securing supplies of machinery and equipment from India. A delegation of Federation of Indian Chambers of Commerce and Industry (FICCI) is expected to visit Mauritius to identify areas in which joint ventures may be established there. India has offered to provide consultancy services to Mauritius in connection with the setting up of a National Shipping Corporation and a National Transport Corporation in Mauritius. India would cooperate with Mauritius in the construction of a 100-bed hospital. Technical cooperation between the two countries would be further strengthened through deputation of Indian experts to Mauritius and provision of training facilities for Mauritian nationals in India. The two countries have decided to establish cooperation in the field of planning. India may assist Mauritius in carrying out a survey of its mineral and geological resources.

held recently at Bangkok. The Association took this decision after reviewing the services available at the Calcutta aerodrome.

Indo-Italian Cooperation

India and Italy have agreed to co-operate in several areas of science and technology. These include new energy sources, agricultural sciences, materials research, seismology and seismic engineering, hydrology and water resources management, soil conservation and medical sciences.

(Page 2)

High Priority for Power

A massive power programme of adding nearly 18,500 MW of generating capacity is envisaged for the five year period, 1978-83. The total installed capacity of 26,000 MW available in April, 1978 is proposed to be increased to about 44,600 MW by the end of 1982-83 alongwith expansion of transmission distribution system and rural electrification.

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Coordinated Action by APEF Stressed

The Union Commerce Minister, Mr. Mohan Dharia, inaugurat Second Session of the Conference of Ministers of Association of Ir Exporting Countries (APEF) at Geneva recently. The Sessi attended by eight of the nine member countries. The Conference Mr. Carmey Johnson of Liberia as the Chairman for the Second S

Speaking as head of the Indian Delegation, Mr. Dharia called for co-ordinated action on the part of iron ore producing countries ir coming the problems of imbalance between supply and demanc short-term and long-term, gravity of the situation arising out c production capacities, the poor return from under utilization of r capacities and the social-human problems of unemployed. He p out that the real price of iron ore in 1977 was well below that in while during this period, steel prices had arisen significantly. resulted not only in disadvantageous terms of trade but also in dep of a valuable non-renewable resource. Mr. Dharia emphasised producing and exporting countries had to secure adequate return durable trading system in iron was to be maintained.

The Minister said that over a period of time, an over-supply positio been created, resulting in unsold stock of over 200 million tonnes v appeared to have kept the raw-material prices depressed. Consu countries, unfortunately, seemed to be unwilling even to recognise such a problem did exist. He called for strenthening of hands of the ore exporting countries to have the necessary studies conducted in field.

Mr. Dharia urged Brazil and Canada, two other major iron ore produ to join APEF. He expressed the hope that in the context of the n tiations on the establishment of a common fund for commodities, the ong multilateral trade negotiations and the forthcoming UNCTAD-V, opp unity would be fully utilised to forge an equitable framework international trade and economic relations for the 80s.

The Minister welcomed the suggestion made by the Board that there sho be a standing item on the Agenda of the APEF Board to discuss the w market situation. There should be greater exchange bilaterally multilaterally among the iron ore exporting countries. This could formal or informal depending on the sensitivity of the issues. The export countries should also strive for a greater share in the maritime transp tation of iron ore.

Indo-Italian Cooperation in Science and Technology

India and Italy have agreed to co-operate in several areas of science a technology. These include new energy sources, agricultural scien materials research, seismology and seismic engineering, hydrology a water resources management, soil conservation and medical scienc Documents to this effect were exchanged at New Delhi, recently, betwe Dr. R. D. Deshpande, Director, Department of Science and Technolo and Prof. Alberto Boscolo, leader of a 5-member delegation from the Itali National Research Council.

These areas were identified after discussion held by the Italian delegati with Prof. M. G. K. Menon, Secretary, Department of Science and Tec nology and officials of several scientific organisations.

operative activities in the identified as will be taken up for implentation under the Indo-Italian reement on Science and Technoy signed in April last year. Expert ms from the two countries will rk out specific projects in these as.

e Italian delegation visited the tional Physical Laboratory, the dian Institute of Technology. Alldia Institute of Medical Sciences d the Indian Council of Medical search during their stay in Delhi. ey also visited scientific institutions Bombay.

dia Offers Assistance to omalia

e Union Industry Minister, Mr. eorge Fernandes, offered to assist malia in its entrepreneural activities d in the training of its personnel technical fields.

he offer was made at the meeting r. Fernandes had with the foreign inister of Somalia, Dr. Abdurahman ma Barre at New Delhi recently.

r. Barre told Mr. Fernandes about e keenness of Somalia to make break-through in the industrial field. nce Somalia was a member of the hird World and the Non-aligned ovement, he said, it wanted to pand its cooperation with other hird World countries. Among these untries India, with its industrial velopment and appropriate techologies had a special place. The aditional ties between Somalia and ndia also provided a strong base r economic cooperation.

he Industry Minister reciprocated e feelings of Dr. Barre and said that the survey made by UNIDO, some years ago, of the industrial potential of Somalia could be up-dated by Indian experts. The survey would facilitate in the identification of areas for cooperation. He, however, added that one need not wait for the updating of the survey and some projects could be taken up immediately. For example, the old textile unit in Somalia could be revived with the help of a technical team from India. Similarly, projects in the fields of cement, leather and mining could be prepared by the concerned organisations in India.

The Industry Minister also agreed to assist in the training of personnel in technical fields. Such training could be both in India for Somalian personnel, and, in Somalia through setting up of polytechnic and running specialised courses for which technical personnel from India could be deputed to Somalia.

Referring to Somalian intention to have an industrial estate, the Industry Minister offered to place the expertise of Hindustan Machine Tools (HMT) at Somalia's disposal. HMT, he said was already setting up industrial estates in various countries of Asia and Africa.

As for financial assistance for industrial projects, he pointed out that India was not a capital exporting country. But, he added it should be possible to draw specific viable projects with Indian technology and skill for which financial assistance could be had from international financial markets and Arab world to meet the needs of Somalia.

Mr. Fernandes suggested that the Industry Minister of Somalia should visit India with a team of officials. The team could come with specific proposals based on the discussions that had taken place during the Somalian Foreign. Minister's current visit to India. The Somalian Foreign Minister agreed to convey the suggestion to the Somalian Minister of Industry.

India to Participate in Plovdiv Fair 1979

India will participate in the 35th International Fair to be held at Plovdiv (Bulgaria) from September 3 to 10, 1979. The Trade Fair Authority of India (TFAI) will be organising India's participation in this important fair on behalf of the Ministry of Commerce, Civil Supplies and Cooperation, Government of India.

The objective of this participation is to promote Indian exports as the fair would provide an opportunity to Indian manufacturers and exporters to convince the buying organisations in Bulgaira about the wide range of products that India is in a position to offer as well as their excellence and competitive prices.

Among the products/manufactures on display in the India Pavilion would be machinery and equipments, industrial and consumer goods, chemicals and pharmaceuticals, food stuff and spices, cotton textiles, readymade garments, handloom, handicrafts, leather and leather goods, electrical household appliances etc.

From January 1979 Indo-Bulgarian trade is being transacted in free currency instead of rupee payment basis. This new element would provide additional attraction and flexibility to the Indian exporters to secure increased business in this market.

About 50 countries from all over the world take part in this fair every year. These include countries of East

and West Europe, developing countries of Asia, Africa and Latin American and a large number of business firms from all over the world.

Bulgaria's imports during 1976 were valued at Rs. 54,360 million of which India's share was only Rs. 260 million. The country's major imports were machinery and equipment for industrial use, fuels, minerals, metals, chemicals, fertilisers and rubber, building materials, raw materials for food industry, food stuffs and industrial consumer goods.

Plovdiv International Fair is one of the oldest and very popular fairs in the world. India last participated in this fair in 1976, and her pavilion was a source of much attraction. There were a large number of business enquiries and it is hoped that new participation will result in new business avenues.

General conditions for participation in the fair are enumerated below :—

The Trade Fair Authority of India will bear expenditure on transport of exhibits by sea from Bombay to Plovdiv and back. In case participants are desirous of airfreighting their exhibits/samples, they may do so at their own cost and risk.

The participation in this fair will be subject to the usual terms and conditions for participation in international fairs/exhibitions abroad and approved participants would be required to :

(a) Pay token contribution towards participation at a rate of Rs. 400/- per sq. metre of gross area booked. Net area available for display of exhibits will be about 50 percent of the gross area booked. The minimum area to be allotted will be 5 sq. metres and the exhibits of one party can be clubbed with those of other parties of the same product line. Participating units booking more than 20 sq. metres of space will be allowed to have their identity seperately within the overall design and display scheme of the India Pavilion.

(b) Pay 10 percent of FOB value of exhibits or the sale price whichever is higher, to Director, India Pavilion or his nominee in case the exhibits are sold or handed over to agents or representatives of participants, after close of the Fair.

(c) Send the exhibits to TFAI's nominated clearing/forwarding agents at the Indian port indicated at their cost and insurance and have them collected on return at any Indian port intimated by the Authority from its nominated agents at their cost and insurance and on payment of all duties (Countervailing duty, Excise duty etc.) on hearing from TFAI or its handling agents.

(d) Arrange despatch of exhibits by air at their cost and risk in case goods are not delivered to nominated clearing/forwarding agents by the last date indicated below or in the event of last suitable sailing having been postponed/cancelled, in which case, exhibits would be required to be insured by participants at their cost till final disposal or their return to India. The air consignments sent directly by a party will not be insured by TFAI for return journey.

(e) Ensure sending quality exhibits/samples properly packed alongwith adequate printed literature/catalogue/price lists etc. b English and Bulgarian lang if possible. All exhibits/d material after the Auth approval and completion f particpants of all formaliti cluding GRI approval fro regional office of the R Bank of India alongwit relevant documents and 1 of invoices are to be h over to the Authority's fo ding/handling agents at Bo (name and address given b by June 1, 1979.

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The exhibits should be sent to handling agents only after they been approved by the Authority. exhibits in case sent by a part TFAI's clearing agents at Indian p without the written prior appr of the Authority will be at pa cost and risk and neither the Autho nor its agents will in any way responsible for such exhibits, damage etc. to the exhibits.

The Authority will consider, on m the request of approved particip for release of foreign exchange the representative(s) of participants attend the fair for on the spot busi negotiations and make necessary re mmendations to the Reserve Bank India for the release of foreign excha as per existing rules.

Duty Concessions

Soyabean extractions/meal on exp attract an export duty of Rs. per tonne, but by virtue of an exe

n notification export duty is exem- from October 14, 1978. The mption was valid upto March 31, 9. Keeping in view the need to mote production of soyabean in country and to encourage export oyabean extractions/meal the Go- mment have continued this con- ion for one more year i.e. upto rch 31, 1980. The relevant notifi- on has been issued on March 31, 9.

T formulation (75 percent wdp) en imported into India for use lusively in the National Malaria dication Programme for public lth purposes is exempt from basic y in excess of 15 percent ad valorem l whole of the auxiliary duty. is concession was valid only upto rch 31, 1979. Keeping in view shortage of DDT formation in country Government have decided t the import of these formulations l be required for some time more. cordingly, customs duty exemption DDT formulations is being extended a further period of two years i.e. to March 31, 1981.

mponents parts and rubber tyres d tubes required for the manufacture heavy, medium and light commercial tor vehicles and tractors are exempt m customs duty in excess of net percent ad valorem only. This ncession was valid until March 31, 79. With a view to making the ported goods available to the auto- bile industry at reasonable prices d stepping up the production of mmercial motor vehicles within the untry the aforesaid concessional stoms duty has been extended upto ptember 30, 1979. These notifications issued in the extra-ordinary Gazette March 31, 1979.

Boosting Hardware Exports to North America

A Contact Promotion Programme for boosting the exports of Indian cast iron vices, clamps and hardware in the American and Canadian markets has been undertaken by the Trade Development Authority (TDA). Under this, a six-member team will study in detail the market requirements of all types of vices and hardwares in these countries. A senior TDA officer, who is the leader of the team, will be joined shortly by five industry representatives in USA.

The Contact Promotion Programme will not only furnish market information but will also provide live contacts to the Indian industry for marketing their products. The programme will identify appropriate marketing channels and recommend a marketing strategy for promoting these products. It will also provide accurate data to narrow down the specific areas and products in which there is considerable export potential in the US and Canada. Models and designs that need to be introduced, the size ranges to be offered and packaging requirements will be outlined.

Although Indian exports of cast iron vices and clamps have shown a phenomenal increase of 512 percent and 7757 percent from 1974 to 1976 to Canada and USA respectively, these are only a small fraction of the total imports to these giant markets.

PEC Aiding Small Sector Exports

The Projects and Equipment Corporation of India Limited (PEC), a subsidiary of the public sector State Trading Corporation of India Limited (STC) helps small scale units in tackling their problems and promoting their exports in various ways. Finding a market, is just one of the areas where PEC provides assistance to the small scale sector. The other most important area is providing technical assistance. Some of the small scale units are not aware of the international standards and specifications and quality standards desired by the overseas buyers. In such cases, PEC provides various technological inputs into the small scale industries in developing specialised products as per the buyers' stringent requirements. It is noteworthy that a large number of products have been developed through the small scale industries by PEC and exported to such quality conscious markets as the USA and Europe. Among the various items exclusively developed in the small scale sector and exported by PEC are : dent puller assemblies, forged steel dolleys, dent beating hammers, drill press vices, grinding and polishing heads, screw drivers with screw shanks, railway spikes, auto body shop tools, rubber sanding block, flexible sander, chisels, mansion jointers, barbed wire fence arms, coiled spring wires, gate hinges and boop latches and milling machine vices.

Units in the small sector are often faced with the problems of arranging working capital particularly for export orders. On case to case basis, PEC not only arranges finance for these units from various banks but also provides short term working capital to ensure timely deliveries. The other assistance provided by PEC includes advice on export documentation, arranging cash incentives, preshipment inspection and assistance in shipping. It is therefore, no wonder that more than 15 percent of PEC's exports originate from the small scale industries.

PEC works in close coordination with the Development Commissioner, Small Scale Industries, (DC, SSI) as well as other small industries development corporations at the State levels. PEC officials continuously inter-act with these authorities for providing a package of services to this sector. By providing help to the small scale industries to grow in size as well as qualitatively, PEC has only been playing its role in the broader socio-economic national objectives.

A recent survey by the Engineering Export Promotion Council has estimated that there are over 160,000. small sector engineering units in India today. The problems faced by many of them are enormous. The most difficult situation being the rise and fall of demand pattern for the goods in the country. The demand of goods from the small sector engineering units is mostly linked with construction activities, processing and engineering projects, out-put level of original equipment, production and also the replacement demand for spare parts and accessories. All these are ultimately linked to the planned allocation of funds in the various sectors of the economy. As a result, with slight shift in the investment and allocation pattern, a section of the small scale units suffers from inadequate market potential. What is worse is that with the scarce resources available in the hands of the small entreprencurs, the flexibility to quickly adapt to the changing environment is very minimal. In such situation, PEC is of great help to the small scale engineering sector by providing an off-take of their products for exports. PEC engineers as well as the overseas representatives continuously work out details of commodities for which an export potentiality exists and which can be manufactured in the small sector in the country. The Small Scale Industries Development Division in PEC maintains a record of the capability of various units in the small scale sector. A regular in-depth survey is also conducted to bring in more and more small scale units for providing assistance.

PEC secures orders from abroad and transfers them to these industries, Here the rapport that PEC has already built up can help small scale industries (SSI) in securing the orders. PEC also undertakes total responsibility for the performance and quality of the SSI products. PEC's guarantee would be more acceptable to the buyers, as it is a Government of India organisation known the world over.

Another problem that the SSIs face is one of the quality of their products and the quantity i.e. the volume of orders. There is no doubt that one has to maintain a certain level of quality when operating in the highly competitive field of export. Also, an order from abroad is li kely to be of a very large volume and one small scale industry might not be able to produce the whole quantity in the given limited time frame.

As far as quality of products goes, these industries can work as PEC's associates in the matter of designs, products development as well as technology. PEC can also guide them in testing their products for a proper check on quality. Once a big order is secured by PEC, it can distribute the volume among various SSIs on the basis of their production capacity. This way, a large order can be broken up and distributed among PEC's associates to meet the time requirements. This will, however, pose another problem, namely 'consistency in the quality'. In order to maintai same quality in the products c out from different SSIs, PEC coordinate with DC, SSI in orga a Common Testing Section for products.

Next, the SSIs face the probl delivery. They do not have er finance and proper facilities for t delivery of their goods. PEC provide them with advisory se in this nexus. It can help SSI' organizing bodies which can a to their delivery problems.

In today's environment, packa forms an integral part of pro quality and product acceptability. inferior packaging or incorrect de often lead to the receipt of dam goods at the other end, as wel non-acceptance of the product it PEC can give advisory service SSI's in this regard. With its network of foreign offices, cou with extensive touring by its offic it is at all times in touch with forc requirements and preferences in regard.

The problem does not end once goods have been delivered. As matter of fact, this should be trea as the beginning of a 'long associatio One has to think of advancing export by building a rapport w the customers and getting leads fr them. A lead along with a recomme dation from a customer plays one the most important roles in marketi and specially in exports, where the is a lot of competition. This obvious asks for good 'after sale servic Here again, PEC can give technic and management help. Where econ mically viable, it can provic warehousing facilities in foreign coun ries. In addition, PEC is examinir the feasibility of setting up servic

ons in foreign locations. Depending he quantity of serviceable equip- t in use in a given location, as the availability of locally qualified onnel, PEC would consider setting ervice outfits for Indian equipment ollaboration with local companies.

Industrial Growth and Diversification

fining Capacity Increased

roleum refining capacity in the ntry had increased by nearly 3 ion tonnes according to the annual ort of Ministry of Petroleum, Che- als and Fertilisers for the year led 1978-79.

h the commissioning of the Gujarat inery Expansion Project, the total ning capacity in the country on cember 31, 1978 was 30.45 million nes compared to 27.45 million nes in the previous year.

e refining capacity was expected ncrease further with the completion the Mathura Refinery (6 million nes) and the Bongaigaon Refinery million tonne). The crude distillation t of the Bongaigaon Refinery had eady been commissioned in February 79.

e report adds that the findsings the Study Group appointed in cember, 1977 to examine various posals for further increasing refining acity during 1978-83 and the sequent two years had been received d was under examination.

ere are at present 10 refineries the country. Except the small million-tonne Digboi refinery of sam Oil Company (AOC), the maining nine refineries are in the blic sector.

The existing operating refineries processed nearly 24.89 million tonnes of crude oil in 1977-78 compared to about 22.99 million tonnes refined in 1976-77. The crude throughout in 1978-79 was expected to be around 26.39 million tonnes.

The report said that due to a number of factors like unsettled conditions in Iran, floods, disruption in tanker unloading and rail and road movements coupled with higher demand, the supplies of certain petroleum products, particularly High Speed Diesel oil and kerosene, in certain areas caused concern for some time. Special measures were taken to rush supplies to those areas to restore normal operations.

To avoid such a situation in future, it had been decided to increase tankage for petroleum products at Jullunder. The Government had also approved laying of a product pipeline from Mathura to Jullunder via Delhi and Ambala.

Massive Programme for Power Development

To meet the growing demand of power, high priority has been given to power development and rapid expansion of power supply facilities. A massive programme of adding nearly 18,500 MW of generating capacity is envisaged for the five year period, 1978-83. The total installed capacity of 26,000 MW available in April, 1978 is proposed to be increased to about 44,600 MW by the end of 1982-83 alongwith expansion of transmission distribution system and rural electrification. This is stated in the Annual Report of Department of Power of the Ministry of Energy for 1978-79.

An outlay of Rs. 157,500 million has been provided in the draft Plan for the power sector. This is more than double the outlay in the Fifth Plan and would constitute nearly 23 percent of the total outlay envisaged in the public sector against 18 percent in the Fifth Plan.

The significant feature of power programme is that all the schemes included in it are either on-going projects or the sanctioned ones for which funds were provided in 1978-79 for making a start. In choosing schemes for thermal power development, extension at existing and on-going project sites have been preferred to virgin sites. Larger unit sizes are also being adopted consistent with system conditions to effect economies in cost and reduce construction time.

A review of implementation of the on-going and sanctioned projects carried out recently indicates that a total capacity of nearly 18,500 MW would get commissioned in utilities alone during the Plan period. Further 300 MW is also expected to be commissioned in non-utilities.

The power programme envisages greater direct participation in power development by the Central Government to supplement the efforts at the State level. Strengthening of regional grids and establishment of facilities for integrated operation of power systems at the regional level have also been included in the power programme.

According to the Report large size thermal generating units upto 500 MW capacity are being adopted. This is with a view to effecting substantial economies in power generation and accelerating the power development programme. The first 500 MW thermal power station is being completed by Tata Electric Company at their Trom-

bay Thermal Power Station near Bombay. Such larger size units are also proposed to be introduced in other power stations of the country. The indigenous manufacturing industry has already taken steps to develop technology for indigenous manufacture of large size units.

The power sector achieved record performance in the matter of addition to installed capacity in 1978-79. A capacity of 3022 MW has been added to the installed capacity as against the previous year's addition of about 2000 MW, marking an increase of over 50 percent.

The total installed capacity in the country now stands at 29,000 MW. Of this, 5,000 MW has been added during the last two years. This is in line with the Government's determination to provide basic infrastructure for agricultural and industrial development.

This impressive addition has been largely due to the close monitoring undertaken by the Department of Power and the Central Electricity Authority. Very close coordination with suppliers and project authorities solving of technical problems on the spot as and when they arose, and a sense of urgency that has been imparted to the entire power development programme has resulted in these benefits.

Heavy Industry Output to Double in Six Years

The total industrial output under the fold of the Department of Heavy Industry, which was of the value of about Rs. 30,000 million in 1977-78, is expected to be doubled in the next five to six years. In view of the increase of 8.3 percent in the rate of growth of over all industrial production in the country during April-December, 1978 compared to only 3.9 percent during 1977-78, policies are being directed to achieve an annual growth of 15 percent in the heavy industry sector alone. This rate of growth is considered essential if over all industrial output is to grow at eight percent or more. Necessary machinery to implement these policies is being augmented. This has been revealed in the Annual Report of the Union Ministry of Industry for 1978-79.

There has been considerable increase in demand for almost all types of equipment. The demand for power equipment rose by ten percent and for commercial vehicles, two-wheelers and other automotive items the demand is growing at the compound rate of 12 percent per annum. In respect of machine tools and machinery for textiles, paper and cement, the growth rate has been 15 percent or more.

Special emphasis was laid, during the year, on improving the utilisation and upgradation of existing capacity to achieve quicker and higher output. The manfacturing units were encouraged to take up a systematic programme of replacement and modernisation of obsolete equipment and addition of balancing equipment.

Special studies were made to ensure optimisation. The units which had reached their attainable capacity and were posed for further growth were allowed to expand within the framework of the Government's policy. Liberal policy was adopted to allow for diversification too.

The first ever comprehensive study of the trawler industry in India was undertaken during the year and a ten-year perspective plan was drawn up which is currently under implementation.

A similar exercise is under wa ding floating crafts, like tugs, dredgers· floating cranes, etc.

The Department continued as a nodal point for providing a and support to the indust regard to their inputs and pr of exports. It played a lead in bringing about closer i cooperation with other through active participation working groups of various joi missions and committees. di logues were held by the Minister of Industry and the with the representatives of governments including Iraq, Libya, Nepal and Syria.

As a result of several measures i streamlining of procedures, ca pensatory support and liberal a significant increase has bee tered in engineering exports target of Rs. 7200 million is e to be achieved by the end of Efforts are being made to rea figure of 10,000 million in 198

The Technical Development Scheme started to help the engi industry to improve its pro and viability through techn upgradation, was extended in 1978 to "all industries", in small and medium units.

Under the Scheme. 79 cases value of 83.1 million were ap during the period April-Dec 1978. The major industrial among the approvals grante textile machinery, foundary, fo machine tools, tractors and com vehicles.

ECL to Expand Produc Capacity

In order to meet the growing d of coal, the Eastern Coalfields

CL) is taking up three projects targetted production of 2.40 million nes at a capital outlay of Rs. .9 million. These are Bankola organisation), J.K. Nagar (reconst-tion), and Purshottampur.

e demand for coal in respect of stern Coalfields Ltd. in 1982-83 s been assessed at 35.0 million nes. The production available from existing and approved mines in at year is expected to be 28.21 llion tonnes leaving a gap of 6.79 llion tonnes. With a view to meeting e above gap the company is taking the above mentioned schemes.

nkola colliery is presently being veloped and worked through inclines. the reorganisation schemes the ntral sector will be taken up and e mining will be by the conventional ord and pillar method of extraction ith modification of the deployment chain conveyors to improve the oductivity.

K. Nagar colliery has been constituted y amalagmating eight working zones. he increased production is proposed be obtained from seams which e standing on pillars. Bogra seam ill be worked by longwall method ith powered support. Satgram seam ill be worked by conventional bord nd pillar method of mining with emi-mechanisation.

urshottampur is an opencast project onsisting of a sequence of seams. Mining will be done by a combination f shovel and dumper working.

team coal from these mines will e supplied to railways and general ndustries. Slack coal will be made vailable to thermal power plants, niscellaneous industries and brick-urning sector.

Coal Production to Go Up

A production programme of 117.89 million tonnes has been drawn up for 1979-80. The anticipated investment in the public sector coal companies is of the order of Rs. 2978.1 million in 1979-80 as aginast Rs. 2343.1 million provided during 1978-79. Out of this Rs. 2743.1 million have been provided for Coal India Limited (CIL) and its subsidiaries. This is stated in the annual report of the Department of Coal, Union Ministry of Energy for the year 1978-79.

According to the estimates drawn by the Working Group on coal and lignite, the production of coal will rise to 133.65 million tonnes against the demand of 131.34 million tonnes in 1980-81 and touch a figure of 153 million tonnes in 1982-83 against the anticipated demand of 150.50 million tonnes. The Working Group was constituted by the Government to formulate the programme for the development of coal and lignite for the period 1978-83 under the Chairmanship of Secretary, Department of Coal.

The report says that with a view to achieving targetted production as anticipated by the Working Group new coal projects are under preparation for obtaining sanction. During 1978-79, 14 projects were sanctioned by the Government upto December 1978. These will contribute towards an additional output of 26.57 million tonnes per year at an estimated cost of Rs. 3194.9 million. Twenty more projects would have been sanctioned by the end of March 1979 involving a capital outlay of Rs. 1790 million for a targetted production of 17.26 million tonnes. Besides these, CIL and its subsidiairies have also sanctioned a number of projects.

The coal production in 1978-79 is slightly higher than that in the previous year. The output in the first eleven months, April 1978 to February 1979 was 90.76 million tonnes as against 90.64 million tonnes during the corresponding period of 1977-78.

The Report says that on account of production of coal from April to October, 1978, being less than the growing demand, the pithead stocks of 12.2 million tonnes in April 1978 were reduced to 9.9 million tonnes at the end of October 1978. The stocks with major consumers also came down. But with the step up in coal production since November 1978 on the one hand and less than commensurate off-take by Railways on the other, the pitched stocks have since been increasing and were estimated at 12.9 million tonnes at the end of February 1979.

Modernising Steel Plants

The Government of India have entered into agreements with the Soviet Union for the preparation of programme relating to introduction of technological improvements and innovations at Bhilai and Bokaro Steel Plants to secure additional production from the existing facilities at a minimum cost. The Steel Authority of India (SAIL) have similarly commissioned consultants to work out schemes for the modernisation of Durgapur and Rourkela Steel Plants. Giving this information in the Rajya Sabha recently, Mr. Karia Munda, Union Minister of State for Steel and Mines, said that it would also be ensured that during implementation of the modernisation programmes, the normal working of the steel plants was not materially affected.

Some of the important schemes involving sophisticated and improved

technology under execution or consideration include experimental coal dust injection in blast furnace at Bhilai; conversion of one 500-tonne open hearth furnace to twin bath furnace; installation of an experimental bottom-blown oxygen converter at Durgapur Steel Plant; modernisation of hot strip mill at Rourkala Steel Plant; installation of facilities for production of steel for cold-rolled grain-oriented (CRGO) silicon sheets; and adoption of desulphurisation process for hotmetal at Rourkela.

The Minister also informed the House that in terms of saleable steel, capacity utilisation at Bhilai Steel Plant had gone up as high as 02.7 percent in 1976-77 and 96.2 percent at Rourkela Steel Plant in 1977-78.

Industry Clinic for Bakery Products

Inaugurating recently an industry clinic on "Bakery Products" organised by the Small Industries Service Institute, New Delhi in collaboration with the Society of Indian Bakers (Northern Chapter) and the Wheat Associates of USA, Mr. Jagdambi Parsad Yadav, Union Minister of State for Industry, urged the bakers to evolve nutrious and tasty products to suit the needs and pockets of people, particularly children in rural areas. The Industry Clinic is a new developing concept applied for upgrading the skill and technology to improve the productivity and performance of small industrial units engaged in different manufacturing activities.

The Minister said that it was timely that such a clinic was being organised because further development of bakery industry was now reserved exclusively for the small scale sector. This industry was amenable to wide dispersal and offered a substantial scope for further development in smaller towns villages and backward areas.

By the application of an appropriate technology in the form of a judicious blend of manual and machine operations, he said, the industry could also offer a large employment potential for various categories of personnel required to man the industry.

However, the State Minister pointed out, the high cost of production was a hinderance in making bakery products available easily to people of lower income group, But, he added, if locally available materials and high protein oil-cakes and other cereals and millets which were available in the different areas in the country were used for the manufacture of different types of bakery products, this could go a long way in bringing down the cost of the products and, thus, developing the markets.

The Minister further observed that the small bakery units could adopt some sort of common quality certification mark for their products which would create a confidence in the consumers. The Small Industries Development Organisation along with the Department of Food and the State Government authorities might work out some suitable scheme for quality control in bakery products manufactured by small units in the different areas. This, he said, would substantially resolve the marketing problems of the industry.

The Central Food Technological Research Institute, Mysore, the Minister said, could provide necessary technical back-up for standardising the techniques of production and quality control and provide necessary guidance to the small units in this regard. Organisation like the Wheat Associates of USA in collaboration with the Small Industries Development Organisation and the various State level institutions and agancies could building up a sound base f manufacture of bakery product small scale sector to cater to gional and the local requirem added.

The two-day clinic discuss problems of raw materials, equipment, quality control, and marketing problems. T presentatives from large n of small scale bakeries from a the country participated in it.

Planning Agricultural Growth

Agricultural growth has to be pl in relation to the rising dema country's growing population raising of nutritional consumpti vel of the low income groups. over the stability of the genera nomy and prices, is greatly influ by the agricultural situation i country. This was stated by the Minister of State for Agricultur Irrigation, Mr. Bhanu Pratap in his address at the concluding tion of the National Agriculture Bhopal, recently. He said the de of foodgrains in 1987-88 on the of the envisaged population gr and the objective of rising per c availability of foodgrains from present 159 kg. to about 190 kg that year is estimated to be abou million tonnes. The country will to work hard to raise foodgrains put by about 35 percent in the ten years. Larger rates of growth to be achieved in the case of prote foods like pulses, oilseeds, milk, m fruits and vegetables.

Mr. Bhanu Pratap Singh said four bumper harvests in a row a good experience in a country like I From a country deficit in foodgrai

ord production, corrective measures been taken by the Government e extent possible to deal with the tion of plenty. The prospects of grains production this year also ite rains and floods are very bright. cultural growth, in the country, however, been uneven. Modern nology has permeated to a large nt in the irrigated areas. The blems of increased production in dry land, rainfed areas have to be . The country is still lagging behind target in the production of pulses oilseeds.

Minister of State said that the cultural production strategy has e suitably oriented to overcome these tages. Government has recently ngthened and streamlined the onal agriculture extension ser- to promote the use of newly ved technology. A procedure of ning of village level workers follow- by organisation on regular visits to rm farmers families has been intro- ed. The system known as T&V is g spread on an increasing techno- cal package supported by appro- te practices and public policies. vernment has also launched a drive improving pulses production thro- three pronged strategy consisting production of pulse crop in the irri- ed areas, improvement of yields of se in unirrigated areas and popu- se pulses as inter-crop both in ual and perennial cropping patterns. egards oilseeds four major steps for easing production have been taken. se are increasing yield of coconut planting dwarf hybrid variety and ing up re-planting schemes bringing ger areas under oil palm; stepping of R&D efforts in both edible and ustrial oilseeds crops, production minor oilseeds like neem, sal, etc. ich are particularly important in economy of tribal areas and finally strengthening of efforts in the field of oil technology so as to extract maximum oil from a variety of resources such as rice bran, maize germs, mango kernel, cotton seeds etc. Implementation of this combined strategy in-perennial and annual oilseeds, minor oilseeds is expected to meet the growing requirements of the country for oil.

Referring to the building up of food reserve and their requirement for generation of employment in rural areas, the Minister of State said the Food for Work programme, under implementation, would improve the income and nutritional level while creating durable community assets to strengthen the rural infrastructure. Under the Integrated Rural Development the development will consist of agricultural development in its wider aspects including horticulture, animal husbandry, piggery, poultry, fishery, social forestry, irrigation, soil and water conservation, village and cottage industries.

Referring to 'Lab to Land' scheme for transferring of technology to the weaker sections of the society, the Minister said that he had suggested for adoption, during the Golden Jubilee year of the Indian Council of Agricultural Research, of weaker sections of the society specially the small and marginal farmers.

New Drugs (Price Control) Order

The Government has issued the Drugs (Prices Control) Order, 1979, (DPCO) which replaces the Drugs (Prices Control) Order, 1970. The Order issued on March 31, came into force from that date.

The new DPCO seeks to embody the pricing decisions, forming part of the New Drug Policy announced on March 29, 1978 in pursuance of the recommendations of the Committee on Drugs and Pharmaceuticals Industry (Hathi Committee).

As envisaged in the Policy statement, the Order brings under price control three categories of formulations which are listed in the Order as Category I, II and III formulations. DPCO, 1979, provides that the ceiling on mark-up of Category I formulations shall be 40 percent, on Category II formulations 55 percent and on Category III formulations 100 percent. Formulations not included under Categories I, II and III will be exempt from price control.

DPCO, 1979, sets out the scheme of ceilings on pre-tax return on sales turnover of formulations based, besides the magnitude of the turn over , on such criteria as whether a drug manufacturing concern manufactured bulk drugs or not and is engaged in approved Research and Development work or not.

Pretax return ranges from 8 to 13 percent and should be compared with the uniform pre-tax return of 15 percent allowed under the Alternative Scheme of DPCO, 1970, which was not related, as under the present Order, either to the magnitude of the turnover or to the contribution of the firm to bulk drug production or to Research and Development activity.

In respect of Category I and II formulations, DPCO 1979 provides for 'Leader Prices', based on the prices of efficient major manufacturers, whose names have been separately notified. These will be the ceiling for all manufacturers of such formulations including those in the small-scale sector. Prices which are higher than the leader prices will have to be reduced to the leader level immediately. Prices which are lower than the leader prices will stay

frozen at such lower levels and any revision will require Government approval.

The Prices of Category III formulations will be fixed by the Government for individual manufacturers. Until the prices are so fixed, the present prices will continue to operate. Wherever possible, however. leader prices may be established for Category III formulations also on the basis of standard composition, and manufacturers could adopt these prices at their option, without specific price approval from the Government. Leader prices for Category III formulations have not yet been worked out.

Under the DPCO, 1979, all bulk drugs which are used in the production of price-controlled formulations will be subject to price control. In this respect, the new Order improves upon DPCO, 1970 under which firms could declare prices of bulk drugs which had not been categorised as essential under that Order and were obliged to seek Government approval only where they sought to increase these decared prices.

Under the new DPCO, such bulk drugs fall into two groups for pricing. The first group is of bulk drugs which go into Category I and II formulations where, considering the fact that ceiling on mark-up are 40 and 55 percent respectively· a return of 14 percent on the net worth will be allowed in computing the approved prices. In the second group are bulk drugs which go into Category III formulations (where ceiling on mark-up is 100 percent), which would qualify for a 12 percent return on net worth in the approved price.

While the Order stipulates only that a reasonable return on net worth will be allowed on these two groups of formulations, the Bureau of Industrial Costs and Prices has been advised about the specific percentage return that these two groups of bulk drugs would be eligible for.

Under DPCO 1979, the prices of bulk drugs will be fixed, after such inquiry as is deemed fit, essentially on the basis of average cost of relatively more efficient manufacturing firms which account for a large percentage of the production of such drugs. In exceptional cases, however, where it is considered necessary for increasing the production of indigenously manufactured bulk drugs, Government may fix retention prices for individual manufacturers of bulk drug and a common sale price taking into account the weighted average of the retention prices fixed for individual manufacturers.

The Government has taken specific powers to fix the sale prices of imported bulk drugs making it obligatory on every importer of bulk drugs to seek prior price approval of Government.

Wherever a bulk drug is indigenously produced and also imported, the Government has taken power to fix retention prices for individual manufacturers and importers and pooled prices for the sale of bulk drugs which are both indigenously manufactured as well as imported. This has been done to provide protection to indigenous manufacturers.

New bulk drugs which have been developed through original research and development effort in the country and have not been produced elsewhere will be exempt from price control for a period of five years.

Government will constitute and operate a Drug Prices Equalisation Account into which the manufacturers and importers shall pay, and from which the importers and manufacturers shall be paid, the difference between the retention prices and the pooled and common selling prices under the Order.

By a separate notification the Gov ment has continued the exemption price control presently availabl small scale industry whose turn ov formulation does not exceed R million, subject to their conformi leader prices in Category I an formulations.

The Order contains certain miscell ous provisions relating to mar of prices on containers, display of p at place of business, furnishing of p list to various authorities etc., wh shall be applicable not only to pr controlled formulations but also formulations which are exempt f price control.

The other miscellaneous provision the Order include: the power to prices of bulk drugs and formulati in the absence of availability of d from manufacturers; bar on ma facturers withholding from sale t dealer any drug without good sufficient reason; maintenance of tailed records pertaining to bulk dr and formulations by manfacturers a the power to direct manufacturers remit to the Drug Prices Equalisati Account the unintended benefits acc ing to them as a result of purchase bulk drugs at prices cheaper than t prices allowed in their formulati prices.

Science and Technology

Harnessing Solar Energy

For harnessing the non-traditional r newable sources of energy like sol energy, investigations, studies and r search and development activities a being undertaken in the country

This was stated in the Lok Sabha by th

on Minister of Energy, Mr. P. achandran, in a written reply question recently.

Minister said that organised re-ch and development have led to e successful prototype development olar energy devices such as solar rs for certain agricultural products, r and space heating systems for estic and medium scale applications solar photovolatile cells/modules.

R&D efforts have, however, not led to the stage of product develop-t for commercial application. A gramme of intensified R&D work olar energy is under way.

AL's System to Test rcraft Stresses

National Aeronautical Laboratory AL) has developed two sophisticated ems useful for testing of stresses l strains of the aircraft, the Prime nister, Mr. Morarji Desai informed k Sabha in a written reply to a quest-, recently.

e strains which an aircraft is sub-ted to under loads are determined using strain gauges which have been veloped by the Laboratory and the ta is fed to a 500-channel data logg-g system. This facility is used for tic testing of aircraft, and enables a termination of the stresses to which aircraft is subjected, normally der flight load.

hybrid computer controlled, fatigue-evaluation facility, which is designed simulate loads and load cycles to nich the aircraft is subjected enables determination of the useful life of the rcraft under normal operation. nanges of design and materials used ay then be possible to obtain in-eased aircraft life.

Algae as Fertilizer, Food and Fuel

The Department of Science and Technology has sponsored a project to harness algae as a source of protein, fertilizer and fuel. Several research institutions including the Indian Council of Agricultural Research, the Council of Scientific and Industrial Research a d the Indian Council of Medical Research are participating in this venture, according to the Council of Scientific and Industrial Research, New Delhi.

The research at the Indian Agricultural Research Institute, New Delhi, has shown that the use of blue-green algae may result in saving of chemical nitrogen fertilizer to an extent of about 30 percent. It has also found that supplementing the recommended dose of fertilizer with blue green algae is beneficial in other ways.

There is an attractive return in the algae fertilizer technique with a high benefit cost ratio of 10:1. Tamil Nadu leads in the adoption of this technology for rice. This technique has been found useful in other countries also. A short training programme has been organized by FAO on this technique in Burma, Nepal, Bangladesh and Sri Lanka.

Another programme under the project, taken up at the Central Salt and Marine Chemicals Research Institute, Bhavnagar, is utilization of seaweed. The processing technology for preparing liquid seaweed fertilizer, which can provide micronutrients for crop plants, has been standardized and the product will be soon ready for field testing. The Institute is also conducting studies on the fermentation of marine algae for producing mathane.

The National Environmental Engineering Research Institute, Nagpur, is working to explore possibilities of large scale culture of spirulina, a protein rich algae suitable for animal feed. Studies on developing an integrated system of stabilization pond-cum- fish culture are in progress at the Institute.

Computers in Scripts of Indian Languages

Electronics Corporation of India Limited (ECIL) have made preliminary efforts in using Indian languages on computers. They have succeeded in generating Devenagari and Telugu characters on display screens. This information was given by the Prime Minister, Mr. Morarji Desai, in a written reply to a question in the Lok Sabha, recently.

To use Indian languages on computers, appropriate input and output units are needed by way of hardware. In addition, software has to be developed in coding, text processing, translation and programming. A dot matrix printer is used for three-line printing of text in an Indian language. Three-tier printing is necessitated by having to provide for and lower matras.

ECIL has also developed a FORTRAIN compiler to process text in Hindi or Telugu, Concurrently, awareness of the feasibility and potential of using Indian languages on computers has been created through several promotional measures taken by the Department of Electronics (DOE). The most recent was a Symposium on "Linguistic Implications of Computer Based Information Systems" organised by the Department of Electronics at New Delhi from November 10 to 12, 1978. The question of commercial expliation of the Computer System would depend on the demand for such products.

New Direction to India's Foreign Trade

The last two years have recorded a significant reorientation in India's foreign trade policy and strengthening of economic and trade cooperation with other countries, as a part of a new thrust to the country's development efforts. In the field of foreign trade, a distinctively new and bold course has been charted, and exports are considered as a means to an end. Foreign trade is being regarded as an integral part of national development strategy of economic growth with an accent on self-reliance, creation of larger employment opportunities, decentralisation of economic power, proper care of domestic needs, higher living levels of the people and promotion of social justice.

This has been stated in a Brochure recently released by the Union Ministry of Commerce, Civil Supplies and Cooperation. It says that given the inherent potential of country, the Government's new thrust of export promotion, stability in policies, simplified procedure and the national commitment to rapid economic growth, it was possible for the country to overcome the present situation and to attain a sustained growth in exports to meet not only its import requirements but also its needs for development.

Highlighting the major steps taken during the period, the Brochure points out that over the years, foreign trade, policy was followed in isolation of the other national economic policies. This created distortions manifested in (i) high prices of mass consumption goods in the domestic market, ((ii) stagnation of employment generation in the exporting industries, (iii) non-distribution of the benefits of export to actual produceres specially in the agricultural and cottage sector, etc. Increase in exports were achieved at the expense of domestic investment and development of the national economy. For instance, indiscriminate exports of essential items like iron and steel to the tune of 2.5 million tonnes (Rs. 3490 million), cement 870,000 tonnes (Rs. 290 million), oil cakes 1.8 million tonnes (Rs. 2,340 million) in 1976-77 reflected inadequacies in domestic offtake and investment planning rather as a scientific thrust in India's export marketing. However, by evolving a new approach, Government's endeavour has been to replace the earlier adhocism by a longterm perspective for export promotion.

Alive to the importance of the problem, and recognising the need and urgency for appropriate changes in import export policies, the Government formulated in August 1977 broad guidelines reflecting adequately the important structural changes which have taken place in the economy and more particularly the new directions and priorities of planning and development. Within the framework of these guidelines a committee was set up in November 1977 to review the present structure of import and export policies and procedures in its entirety and recommended appropriate changes.

The new export policy firstly aims at consciously and systematically developing the exports of items in which the country has comparative advantages and which promise long-term growth prospects. Such leading sectors of export expansion include enginneering goods, readymade garments, silk, woollen and man-made fabrics, leather manufactures, handicrafts and technology intensive products, e.g. exports of consultancy and engineering services, project exports and selected agricultural and horticultural products. Secondly, it seeks to increase ductivity of traditional expor diversify the commodity-mix maximise domestic value a these items. Thirdly, stress i greater participation by th scale sector and labour intensi in the export trade with a viev viding wider employment op ties. Fourthly, it seeks to reg ports of mass consumption iter view to ensuring that exports inflict a high social cost by crea culties regarding availability a for the common people of the For this purpose, the supply, and price position is kept un stant review and whenever n controls on their exports are priately relaxed. The new strategy also seeks to impart stability to India's foreign e earnings by encouraging d cation, of both markets and co ties, Such diversification and gthening of state trading agen important elements of the appr promotion of India's foreign t

The trading conditions in interr market during the last two have become considerably mor cult. India's overall export in by 4.4. percent from Rs. 51,46 lion in 1976-77 to Rs. 53,740 in 1977-78 and on provisiona exports during the first ten mo 1978-79 amounted to Rs. 44,16 lion indicating a rise of about cent over the corresponding pe the previous year.

Recessionary conditions have pe in the world economy over these Moreover, developed countries been increasingly resorting to protectionist measures mat affecting export of developing cou like India. Exports of importan our-intensive sectors such as t

clothing have been already affect- by these restrictions and so have a nber of steel and engineering pro- cts. The world trade in volume terms reased by 11 percent in 1976 but due low levels of economic activity aud tectionism in the industrial world, growth rate decelerated sharply 4 percent in 1977 and is expected to not more than 5 to 6 percent in 1978.

is noteworthy that exports of non- ditional products identified as 'dy- mic sectors' in the Government's v export strategy have shown an couraging trend. These products in- de engineering goods, gems and ellery, woollen carpets, leather and ther manufactures, cotton garments d marine products. It may be noted t most of these items are labour- ensive and come from small scale d cottage sector . Their increased ex- rts would thus have a very favourable pact on the employment situation rticularly in the decentralised tors.

ensure a secure base for India's export, Government has initiated various measures that would (i) strengthen export production, (ii) encourage capacity expansion in export oriented industries, (iii) augment bargaining power of our exporting community, (iv) encourage entry of products in the new markets of both developed and developing countries, and (v) improve inherent competitive strength through imparting greater relative price stability to Indian economy.

One of the most important features of Government's measures has been to provide a stable policy frame work so that avoidable uncertainties are removed and exporters are encouraged to take a long term view about international marketing. Another noteworthy aspect of these measures has been to make export promotion truly a national effort by involving various agencies of Central Government, public sector organisations, State Governments, financial institutions and other national agencies engaged in different types of economic activities.

The current import policy has been designed with the twin objective of making easier availability of imported inputs to the industry on the one hand and providing legitimate protection to the indigenous industry on the other. The policy presents a more liberal and positive approach to development needs of the economy. It is an integrated approach to automatic licensing and a common set of lists (banned/restricted) applicable to both users and exporters, decentralisation of licensing work, replacement of free licensing largely by a system of open general licences, further fillip to research and development efforts of institutions and individuals, elimination of the category of established importers and simplification of procedures. For effective implementation of import policy, advice and recommendation of all the concerned Ministries and agencies like Directorate General of Technical Development are sought on a continuous basis. □

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Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Thessoloniki International Fair, Thessoloniki (Greece)	May 24-28, 1979
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
International Trade Fair, Maputo (Mozambique)	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14-23, 1979.
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25-November 11, 197
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8-12, 1979
Leipzig Spring Fair, Leipzig (GDR)	March, 1980
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

News Highlights

India's Exports Go Up

India's exports went up by about Rs. 1,500 million in the first eleven months of 1978-79 over the corresponding period of the previous year registering a 3.1 percent increase. Provisional figures placed the total exports at Rs. 49,380 million. In April 1977 - February 1978 they were Rs. 47,890 million.

The provisional import bill for April 1978 to February 1979 is Rs. 60,010 million showing a trade gap of Rs.10,630 million.

Increased Inflow of Tourists

India attracted about 748,000 overseas tourists (excluding nationals of Pakistan and Bangladesh) during 1978, which shows an increase of nearly 16.8 percent over the number of tourists who visited India in 1977. India's gross foreign exchange earnings from tourists in 1978 were estimated at Rs. 3,300 million at the current price level.

Crude Production Up

The indigenous production of crude oil in 1978-79 is expected to be 12.5 million tonnes—1.8 million tonnes more than the production of 10.7 million tonnes in the

(*Contd. on page* 2)

Export Performance and Potential

Sizeable Improvement in India's Foreign Trade

India's external trade registered a noticeable improvement in 1977-78. The average index of the net terms of trade was higher by 22.7 percent over the previous year. This was stated in the annual report for 1978-79 of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation.

The total trade in 1977-78 amounted to Rs. 114,399.8 million. In 1976-77, it was Rs. 102,197.3 million. For the first ten months of 1978-79, the figures are Rs. 98,330.9 million of which imports are Rs. 54,172.8 million and exports Rs. 44,158.1 million. The report points out that trading conditions in international market during 1978-79 continued to be difficult because of the low level of economic activity in the industrialised countries. In terms of volume, the growth of world trade declined sharply to 4 percent in 1977 from 11 percent in 1976. This lower rate is expected to have continued in 1978 when growth in world trade is not likely to exceed 5-6 percent. The sharp reduction in world trading had its effect on the growth of Indian exports. In line with the global trends during 1977-78, India's overall exports at a level of Rs. 53,740 million showed an increase of 4.4 percent.

The sluggishness in exports, the report explains, is due to causes, both international and domestic. Continued recessionary conditions in the world economy resulted in developed countries seeking recourse to increased protectionist measures, materially affecting exports of developing countries. For instance, exports in important labour-intensive sectors such as apparel and engineering goods have been already affected by specific

previous year, according to the annual report of the Union Ministry of Petroleum, Chemicals and Fertilizers. (Page 9)

Increase in Drug Exports

The exports of indigenously produced drugs has continued to rise. During 1977-78 medicines worth Rs. 576 million were exported compared to Rs. 520 million in the previous year. The target of exports of drugs and pharmaceuticals including fine chemicals for 1978-79 was 620 million. Indigenous production of drugs and pharmaceuticals was concurrently of the order of Rs. 1,800 million of bulk drugs and Rs. 9,500-10,000 million of formulations. (Page 8)

Duty on Steel for Mini Plants Revised

In the wake of Government's recent decisions on the pricing of iron and steel products, it has been decided, inter-alia, to withdraw the full exemption from excise duty hitherto applicable to steel ingots and semi-finished steel products manufactured by mini-steel (electric furnace) plants and to impose basic excise duty of Rs. 100 per tonne thereon.

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quotas and restraints, as well as an atmosphere of uncertainty and created by frequent investigations and like measures instituted b loped countries. Other inhibiting external factors included in export realisation in rupee terms due to variations in the rupe of the US dollar, and fall in the international prices of importan like tea, coffee, spices, oil cakes and ore.

Among the internal constraints were power shortage, transport bott congestion in ports, unprecedented floods in many States like, Uttar P West Bengal and Bihar, jute-workers' strike and the like. The also reduction in exportable surplus of certain items owing to factors including the increase in the domestic demand of items lik cement and textile fabrics. Moreover, it has been the Govern deliberate policy to restrict and control export of certain commod enable their sufficient domestic vailability at reasonable prices, t reducing the social cost of exports. Such regulatory measures however, been reviewed from time to time in the light of the char supply, and price position, and where necessary, have been remo relaxed. Exports of potatoes, onions, HPS groundnuts and the li cases in point.

The downward trend has been noticed mostly in items like tea, cashew and steel. these together accounting for a decline of about Rs. million. But, thanks to India's selective export strategy, the expo non-traditional and dynamic sectors have shown considerable buoy For instance, export of engineering goods, handicrafts, gems and jewe cotton garments, leather and leather manufacturers and marine pro have registered growth rates ranging between 8 percent to 43 percen

There was an increase in imports following the liberalisation of the i policy and the need for augmenting the local availability of certain consumption items which were in short supply. The increased lev import of select strategic items has helped stimulate industrial gr and stabilize prices of essential items.

The rise in imports was very substantial in respect of fertilisers, iron steel, non-ferrous metals, machinery and transport equipment as we petroleum and petroleum products. Subsequent quantities of edible had also to be imported to keep domestic prices under control. S have been initiated to reduce progressively the dependence on impo edible oils. One such measure was to canalise the import of edible through the State Trading Corporation. Imports of cereals continue dwindle because of the sustained improvement in domestic production

Listing the various purposive export promotion measures evolved du the year, the report says that a most significant one was the step to inv the Planning Commission and the State Governments more actively this endeavour especially in the field of exports of agricultural comm ties and products of the cottage, handicrafts and small scale sectors. I Conference of Chief Ministers, an idea was mooted that each State G ernment should evolve a blue-print of an export promotion plan. Se officers of the Department have been assigned individual States to as the State Government officials to prepare position papers in this beh The Trading Corporations under the Ministry have been asked to op more branches in major States and also to maintain close contacts w the State Corporations. It has also been decided that atleast one Sta level Corporation in each State will be recognised as an Export Hou

er, financial assistance will also tended to each State from the eting Development Assistance for opening an Export Pavilion.

emphasised that given the vast rces potential of the country, lity in the policies, simplified edures and a constructive and notional attitude, it should be ble to attain a sustained growth in rts as an important instrument of all economic development and l advance and to achieve the ctive of self-reliance in the near re.

ater Economic operation between India l Bangladesh

Prime Minister of India, Mr. arji Desai and the President of People's Republic of Bangladesh Ziaur Rehman held discussions Dacca, recently, and agreed, inter-, that great possibilities existed for easing cooperation between India Bangladesh in economic, trade, culture, shipping and technical ls, including the establishment of t ventures. In that context, some ific export-oriented projects such he manufacture of cement, sponge , urea and fertiliser were identified. s is stated in the Joint Communique ed at the end of the official good will t of Mr. Morarji Desai to Bangla- h from April 16-18, 1979.

e Communique says that the two s stressed the need for augmenting l diversifying trade between the two ntries, particularly with a view to ucing the existing trade imbalance. was agreed that infrastructural ilities including transport and tele- nmunication should be improved. operation in the fields of education, ture, information and science and hnology was also discussed. It was noted that there was considerable scope for expanding such cooperation.

Indo-Soviet Cooperation in Non-Ferrous Metals

New areas of scientific and technical cooperation between India and the Soviet Union in the field of non-ferrous metals have been identified following discussions between Indian officials and the Soviet delegation which visited India recently. These include co-operation in the development of ore beneficiation processes, recovery of rare metals in smelters and exchange of information on measures for environmental and pollution control in metallurgical plants and processes.

A Memorandum of understanding to this effect was signed in New Delhi recently by the leader of the Soviet team, and Chief of the Scientific and Technical Department of the Soviet Ministry for Non-ferrous Metallurgy, Mr. A.P. Snurnikov and Mr. R. Ganapati, Additional Secretary, Department of Mines, in the Union Ministry of Steel and Mines.

The Memorandum envisages exchange of information on the recovery of vanadium pentoxide from the intermediate products of alumina, integrated treatment of metallurgical dusts to recover valuable elements, recovery of Zinc oxides from wastes of synthetic fibre production, as also exchange of information on high-strength alumina alloys and the recovery of rare metals in smelters.

Besides the exchange of information on pollution control measures in metallurgical plants, it also mentions exchange of information on the application of polymer-concrete for the construction of electrolytic cells and allied equipment and exchange of expericnce on the operation of copper flash smelters. It also provides for the reciprocal visits of specialists to metallurgical plants in India and the USSR, organisation of joint symposia on scientific and technical problems relating to non-ferrous metals in the two countries and the elaboration of working programmes for each of the identified areas of cooperation.

In the field of ore beneficiation, the two countries will cooperate in developing processes for the selective flotation of copper and lead minerals, investigation of mineral and chemical composition of ores having a low content of valuable constituents application of computor technology for planning of experiments and evaluation of research results and exchange of information on the design and operation of multi-purpose pilot plants for ore beneficiation.

During the recent discussions between the Indian and the Soviet teams, the two sides reviewed the progress so far on the items of cooperation covered in the first Conference of the Non-ferrous Working Group of the Indo-Soviet Commission on Economic, Scientific and Technical Cooperation held in Moscow in October, 1978. It was noted that satisfactory progress had been achieved in respect of the proposed alumina plant in Andhra Pradesh, the Sukinda Nickel Project, recovery of cobalt and nickel from converter slag of the Ghatsila Copper Smelter in Bihar and the development of methods for the concentration of complex ores.

HEC Awarded Contract by Bangladesh

During the recent visit of the Prime Minister, Mr. Morarji Desai, to Bangladesh, a contract for a value of about Rs. 34 million was awarded to the Heavy E..gineering Corporation, Ranchi (HEC) for supply of equipment

and service relating to the augmentation of the Chatak Cement Plant in Bangladesh.

It comprises supply of 1500 tonnes of equipment and refractories and the plant is expected to be commissioned within a period of 36 months. It is for doubling the capacity of the Chatak Cement Project from 250 tonnes per day to 500 tonnes per day.

The contract was awarded on April 17, 1979, at Dacca by the Bangladesh Mineral Exploration and Development Corporation with the approval of the Ministry of Petroleum and Minerals of the Government of the Peoples Republic of Bangladesh.

Indo-Kenyan Trade and Economic Collaboration

Trade and economic relations between India and Kenya are growing fast. Kenya's 3rd Development Plan (1974-78) envisages annual growth rate at 7.4 percent. In Eastern Africa, Kenya is industrially the most developed country. By a package of practices such as import substitution, protection of local industries, encouragement to foreign investments, assurances of inputs etc., it has been able to achieve sustained industrial growth. Sustained planning, on the other hand, has led to a growing demand for consumer goods, raw materials and equipment which is being met through local supply and increased imports from various countries.

A quick glance at the trade between the two countries would reveal that Kenya is purchasing more and more of goods from India. Kenya imported from India goods worth Rs. 55 million in 1972-73 and in 1977-78 it purchased goods worth Rs. 287.4 million. Since 1973-74 onwards, the exports have steadily gone up. The volume of India's trade, however, has not increased in proportion to the volume of overall increase in Kenyan imports. India's share in Kenya's overall imports has remained in the proximity of 2 percent. The present trend is towards increase in India's exports of engineering goods and machinery equipment. The main items of exports from India to Kenya in recent years have been chemicals, manufactured goods, machinery and transport equipment. The main items of import on the other hand from Kenya have been raw materials and ivory, wattle bar and wattle extract, pysethrum flowers and powder. The balance of trade has continuously been in favour of India since 1974-75 onwards.

There exists a better climate than ever before for increasing India's exports to Kenya covering all kinds of engineering goods, machinery equipment and other manufactured goods except textiles which have no future exports potentiality as Kenya has already developed her own self sufficiency and banned the import of textiles. There is also good scope for participation in the Kenyan water supply projects—Phase II, housing construction and urban development because Kenya has received huge aid for these projects from the World Bank.

The performance of Indian joint ventures in Kenya is reported to be satisfactory. There are 8 joint ventures under production in the fields of textiles, gripe water, woollen textiles, paper and pulp project, cast iron foundry and pharmaceuticals, synthetic filament and automobile ancillaries. The 5 joint ventures in the field of pipe fittings, hand tools and machine tools, sanitary fittings etc. are under implementation. Further scope for joint ventures exists in the fields of agricultural impleme based industries, auto parts llaries, chemicals and dystuf up of general engineering mini-steel plant, pesticides processing, small scale industr and science and technology.

The important turnkey projec implemented or under exec India, are sulphuric and al sulphate plant, Kagera Suga steel storage tanks, supply of sets and supply of equipm technical know-how for Nyan Plant, Besides the above there are several other proje joint venture and turnkey, wh been under active considerati

Kenya provides a good field fo industrial collaboration. The Government is committed to economy of private and publi prises. Joint ventures with equity participations are w and Kenyan Government fo flexible policy with respect extent of foreign participatio Government of Kenya encourag ventures which are likely t foreign exchange and are intenisve. Repatriation of capital is permitted though pro against foreign competition given by customs tariff, custo refunds, quantitative restr import restrictions and anti-du legislation.

India will participate in the national Fair to be held at N in September, 1979. India se offer by participating in the a variety of engineering goods as : tractors, hand tools, incl agricultural implements, engines and marine), pumps, electric m etc., machine tools, textile mach farming machinery, sewing ma

l parts, stone crushers (construction
ipment), scientific, hospital, surgical
l laboratory equipments, tea
chinery, refrigerators, oil milling
chinery, automobile parts and acce-
ries except leaft springs, electrical
ods particularly household goods,
lway track materials, cars especially
t and two and three wheeler scoo-
s, jeeps, projectors particularly 35
n, sugar making machinery, iron
d steel structurals, wheat and rice
lling machines, and iron safes and
n-engineering items such as :
rpets, coil products, army softwear,
ndicrafts mainly brass and wood
rvings, floor covering such as nam-
as, cotton and woollen durries,
ndloom bedspreads (printed and
ain), decorative pieces, sports goods,
c.

s a matter of fact, the Indian economy
day is able to manufacture products
almost every description ranging
om the smallest consumer articles
sophisticated machinery and equip-
ient. The infrastructural base and
e industrial progress that has already
een achieved are enabling India to
rike new patterns of supply that
re in line with the demand forces.
Now India is a supplier of sophisticated
ngineering goods and non-engineering
ems to most of the African countries.
ndia's ability to undertake turnkey
rojects and export consultcany services
s by now well knwon in the world.

The India Pavilion at the Nairobi
nternational Trade Fair will present
ot only a panorama of Indian industry
ut an opportunity to the Kenyan
ndustrialists and traders to appreciate
he vast scope that exists for Indo-
Kenyan cooperation. The scope for
economic cooperation is indeed vide
nd it is hoped that the Indian parti-
ipation in the Nairobi International
Trade Fair will not only bring several
manufacturers and exporters of India and Kenya very much nearer to each other but would also strengthen the friendship existing between the two countries. Needless to say that the scene for collaboration between India and Kenya is well set. There is a large scope for give and take between them. Mutual confidence which is the key note to successful cooperation already exists. Future years are bound to witness an era of increased economic prosperity through collaboration arrangements between the two nations.

Follow-up on Indo-Indonesian Cooperation

The Government has set up an ad-hoc Cabinet Committee to process follow-up action on the Memorandum of Understanding signed recently between the Governments of India and Indonesia on mutual cooperation for future industrial and economic development.

The six-member Committee, headed by the Deputy Prime Minister and Minister for Finance, Mr. Charan Singh includes the Union Minister for Petroleum, Chemicals and Fertilizers, Mr. H. N. Bahuguna, the Union Minister for Steel and Mines, Mr. Biju Patnaik, the Union Commerce Minister Mr. Mohan Dharia, the Union Industries Minister Mr. George Fernandes and the Union Minister for External Affairs, Mr. Atal Bihari Bajpayee.

The Deputy Chairman of the Planning Commission would also be associated with the work of the Committee.

The Memorandum of Understanding signed Mr. Patnaik's visit to Indonesia as also the discussions held earlier during the visit of the Indonesian Industries Minister to India with his Indian counterparts had envisaged wide-ranging mutual cooperation between the two countries in various sectors of industry.

The areas of collaboration identified included ferrous and non-ferrous metallurgy, engineering industries with particular reference to the manufacture of machines and machine tools, geological exploration, development of mineral and other natural resources, development of technical manpower and cooperation in design, engineering and technology for the development of cement, paper and small-scale industries.

Multilateral Trade Negotiations

According to the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for the year 1978-79, the multilateral trade negotiations which were launched following the adoption of the Tokyo Declaration in September, 1973, entered the final phase during 1978. From the Indian standpoint, one of the important developments was the implementation of the offers of tariff concessions by the USA on tropical products of interest to India following an understanding reached with that country. Indian exports valued at about Rs. 272 million (based on 1976 statistics) will benefit from these concessions. Offers have been made by the developed countries on several items of export interest to India. Tariff concessions are being negotiated with India's main trading partners and her export trade is likely to benefit from the tariff concessions offered by them.

In the area of non-tariff measures, intensive negotiations are going on in the evolution of Codes on Government

Procurement, Subsidies and Countervailing Duties, Safeguards, Customs Valuation, Technical Barriers to Trade and Import Licensing Procedures, with a view to reducing the trade restricting or distorting effects of such measures and brigning them under more effective international discipline. In the negotiations of these Codes, India has pressed for and obtained with varying measures of success, recognition of special and differential treatment for developing countries. Negotiations are being held simultaneously for the improvement of the Multilateral Safeguard System and the international framework for the conduct of world trade.

In addition to dissemination of information regarding the contents and the procedures of the Generalised System of Preferences (GSP) schemes of various countries, prompt information regarding exhaustion of quotas and changes in the schemes was provided to the exporters by publication through the export promotion councils/ commodity boards and the certifying authorities. Requests for improvement of GSP offers were made on a number of donor countries during the multilateral trade negotiations. These requests were also pursued during the meetings of Joint Trade Commissions and in some cases by making formal presentation in the capitals. Representation before the relevant bodies of the donor countries was also made in cases where withdrawal of tariff concessions on product of interest of India was being considered.

The most important development at the Fourth Session of UNCTAD, held in May 1976, was the adoption of the Integrated Programme for Commidities. The resolution adopted on the subject called for a series of preparatory meetings for the commodities covered to prepare ground for negotiating international commodity arrangements. The Resolution also envisaged a Negotiating Conference on the Common Fund which has since been accepted as a key instrument to achieve the objectives of the Integrated Programme.

India has been actively participating at the preparatory meetings relating to the various commodities, among which jute and jute products, tea, coir and iron ore are of significant export interest to it. Despite a series of preparatory meetings that have taken place the stage for negotiating Commodity Arrangements has yet to be reached for these commodities. Due to extremely slow and somewhat disappointing progress at these meetings it has been decided to extend the time limit for completing the negotiations by one year i.e. upto the end of 1979.

The Second Session of the Negotiating Conference on the Common Fund had to be suspended on December 1, 1977 for want of agreement amongst the participating countries on the Common Fund. Subsequent to the suspension of the negotiations, a series of informal and formal consultations have been held to have the way for resuming the Negotiating Conference. The Conference, which was resumed in November, 1978 made some progress.

The Fifth Session of the UN Conference on Trade and Development is scheduled for May 7, to June 1, 1979 in Manila. The Conference will discuss issues in the areas of interrelationship of trade, development, money and finance, developments in international trade, commodities, manufacturers and semi-manufactures, monetary and financial issues, technology, shipping, least developed among developing countries, landlocked and island developing co trade relations between co having different economic and systems, economic cooperation developing countries and institu issues. In preparation for this rence the Asian Group of the loping countries met in Colombo January 8 to 17, 1979. The Group of developing countries in Arusha from February 16, 1979 to evolve their stanc arrived at a common understa of the stand they should take at M The UNCTAD V at Manila provide a good opporunity to a critical appraisal of the world nomic/trading environment for growth of international trade economic development particular the developing countries.

During the year under review, Government of India continued be actively associated with the vities of the UN Economic and S Commission for Asia and the P (ESCAP) and to participate i the important meetings of the lative bodies of the Commission.

The 34th Session of ESCAP held at Bangkok from March 1978. One of the main achievem of the 34th Session was the end ment by the Commission of proposal to convene in New D in the middle of August 1978, a mee of the Ministers of Trade of ES members countries to take stoc developments in the field of T since the Kabul declaration of and to give new directions for expan of intra-regional trade. Accordin a meeting of the Trade Mini of ESCAP countries was convene New Delhi in August 1978. Conference decided to set up a T Cooperation Group with a num of sub-groups in regard to partic

sures. The Trade Cooperation
ıp has since been set-up alongwith
Sub-groups and these have met
adopted their respective work
grammes.

Standing Committee of the
gkok Agreement on Preferential
ing arrangements among deve-
ng countries of ESCAP met twice
ing 1978-79 and continued to exa-
e the manner in which it can
serve its objectives of trade expan-
in the region. Bilateral nego-
ions were also held with Bangladesh
Sri Lanka, two of the participating
es of the Bangkok Agreement.
a result of the discussions with
gladesh the imbalances in the
onal list of concessions exchanged
ween India and Bangladesh under
Agreement were rectified. India
also agreed to extend tariff con-
ions on additional items of imports
n Sri Lanka.

Industrial Growth and Diversification

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lian Industry Today

ia today demonstrates visible signs
a dynamic growth and strength
ıer economy. Strength that curbed
reversed massive inflation within
course of a single year. Growth
t's plain to see in the remarkable
eases achieved by major industries
h as steel, coal, cement and ferti-
rs. Growth in other sectors tell
same story. India's economic
ıst is not confied to industry alone.
icultural increase in production
made her self-sufficient in food.
foreign trade is thriving in the
e of remarkable breakthrough.

ind these imperssive achievements
years of struggle, trial, error and new initiatives. It is the story of a nation, richly endowed with natural resources and economic skills, determined to take its place among the industrialized nations of the world.

India has what it takes to do it. First, one of the largest work forces in the world, responsive to sophisticated skills and techniques. Second, India produces more doctors, teachers, engineers and research scientists than any other third world country. The effect has been telling. It is these skilled personnel who designed and built the Indian satellite. They are today busy drilling for oil on Bombay High, building refineries and nuclear plants to open up new sources of energy for a growing nation. Third, India mounted an early offensive on the raw materials front that is now paying off. Production of raw material has been swiftly rising and has today reached a level which meets our domestic needs and enables us to export in significant quantities.

The growth in communications testifies to a rapidly integrating nation. And transportation has speeded the process with 3,000 km. of new railway track, 211,000 km. of additional roads and a threefold rise in the number of vehicles. The number of telephones has quadrupled. The whole country is linked by a telex network. Equally valuable to industry is the fact that it is now possible to establish contact with people aborad in a matter of minutes. Feeding this up-to-date system is a vital communications industry —equipment for the entire system is indigenously manufactured.

Indian industry has moved beyond the take-off point with the creation of a solid infrastructure for further expansion. On the one hand indigenous supplies of raw materials and energy are assured. On the other, contemporary technology and allied skills are ready to exploit them. The proof lies in Indian products which are beginning to compete successfully with the best makes in international markets.

Today India produces finished goods of international standard. Machine tools made in India are working in Europe. Precision-made crown-and-pinion assemblies are fitted on automobiles manufactured in Germany. Computer software has gained acceptance in America. Indian wagons and locomotives transport goods and people on African and West Asian railways. Power transformers and switchgear exports are on the rise. Indian transmission towers help carry power to homes in several countries around the world.

A key factor in India's efforts to industrialise has been the rate and the quality at which her planners and engineers have been able to absorb new technology. And this factor is now outward bound as Indian firms go abroad with turnkey services—from concept to completion—in diverse fields like civil engineering, power generation, metallurgy, railway engineering, ecological engineering, mining and geology.

A part of the same picture is the sophistication of managerial skills in India. India's management consultants offer a wide range of services that include market surveys, techno-economic feasibility studies, demand forecasting, work studies and operational research. They also undertake computer software and programming, data processing and staff training on the world's most advanced computers. Indian consultancy services, honed on the problems of growth and under-

development, backed by high technical competence and rooted in a low cost context, are of special relevance to developing countries.

India's technological advance has increasingly led her into international markets. The fact that 107 joint ventures are already in operation in Africa, member countries of the Economic and Social Commission for Asia and the Pacific (ESCAP), West Europe, USA and Canada is proof of the competence of Indian technology and growing international recognition of it. It is proof, too, that today the world is opening its doors to Indian industry.

Substantial Increase in Drugs Production

Indigenous production of drugs and pharmaceuticals, which has been increasing over the years, was currently of the order of Rs. 1,800 million of bulk drugs and Rs. 9500—10,000 million of formulations, according to the 1978-79 annual report of the Union Ministry of Petroleum, Chemicals and Fertilizers.

The report said that there had been an overall increase in production of most of the essential drugs in 1978. Major increases had been achieved in respect of Streptomycin, Erthromycin, Tetracycline, Ampicillin, Phthayl Sulphathiazole, Vitamin A, Vitamin C, Aspirin, Insulin, Digoxin and Phenobarbitone.

According to the report, the Working Group on Drugs and Pharmaceuticals set up by the Planning Commission for formulation of plans for 1978-79 to 1982-83 had estimated that by 1982-83 annual requirements of bulk drugs and formulations would be of the order of Rs. 6,250 million and Rs. 18,750 million respectively. The Working Group had also estimated an additional investment of Rs. 3,700 million.

The report said only essential drugs not produced in the country or whose production was not adequate to meet the demand were imported. During 1977-78, the value of drugs imported was Rs. 1,470 million which was 16 percent of the value of drugs produced in the country.

On the other hand, export of indigenously produced drugs has continued to rise. During 1977-78, medicines worth Rs. 576 million were exported compared to Rs. 520 million in the previous year. The target of exports of drugs and pharmaceuticals including fine chemicals for 78-79 was Rs. 620 million.

According to the report a comprehensive New Drug Policy based on recommendations of the Committee on Drugs and Pharmaceuticals Industry (Hathi Committee) was announced on March 29, 1978.

The broad objectives of the new policy was development of indigenous technology, quick achievement of self-sufficiency in production of drugs and adequate availability of medicines at reasonable prices. The policy aimed at fostering the growth of the Indian sector with a leadership role for the public sector.

The report said that for the implementation of the New Drug Policy an office of the Development Commissioner (Drugs) had been set up in the Ministry. This office had already started functioning and action had been initiated on all fronts to implement the New Drug Policy.

A number of committee like the High Level Committee on Policy and Planning, Committee on High Tec Committee on Profits and Companies as also the Comn lay down Packaging No pursuance of the decisions Government on the New Drug had started functioning.

According to the report, the a of foreig drug compa ies were contained and channelised in dance with national objectiv priorities.

The report said that a close was being kept by the Gove on the availability of drugs and cines in the country. A meet held in the Department of Che and Fertilisers every month wi representatives of the drug facturers to review the sh reported by the State/Zonal Controllers.

According to the report, whe necessary, remedial measures taken to remove shortages. instance, during 1978-79 expo Streptomycin Sulphate was ba while export of Quinine and Qu salts was reduced from tonnes in 1977-78 tonnes to tonnes in 1978-79. Also impor Dapsone and other essential were arranged expeditiously to re shortages in the domestic marke

Super-Alloys Unit Set Up

The Deputy Prime Minister Minister of Defence, Mr. Jagji Ram, inaugurated in Hydera recently the Powder Metallurgy S of the Mishra Dhatu Nigam, first production facility to go operation in a project designed make the country more self-rel in the highly sophisticated field special metals and super-alloys.

The Mishra Dhatu Nigam, which

set up at a capital cost of Rs. million, will manufacture a variety metals and alloys which would utilised for the manufacture of pments and hardware used in nce as also for meeting the require- ts of special alloys for other critical stries such as space, aeronautics, ronics, nuclear and thermal power chemical engineering. The project ld go a long way in making the try self-reliant in highly sophisti- d materials. All efforts are being e to achieve the completion of and structural works to facilitate missioning of the plant operations 980 as scheduled. All major items equipment have been ordered. or equipments for priority pro- ion under Phase-I have been ived at site and erection is in gress as per schedule. Several major s for Phase-II have also been ived.

ude Production Increases

indigenous production of crude n 1978-79 is expected to be 12.5 ion tonnes—1.8 million tonnes e than the production of 10.7 ion tonnes in the previous year, rding to the annual report of Union Ministry of Petroleum, micals and Fertilizers.

this, the production from Oil Natural Gas Commission (ONGC) s, was 9.6 million tonnes (6.2 ion tonnes from onshore and 3.4 ion tonnes from offshore), oil a 2.8 million tonnes and the m Oil Company 50,000 tonnes.

report says that the provisional es of crude oil reserves of 310.27 ion tonnes in 1978 indicated an ease of 7 million tonnes over 303.2 ion tonnes in the previous year. ilarly, the natural gas reserves increased from 230.46 billion cubic metres in 1977 to 238.74 billion cubic metres in 1978.

In oil exploration, a significant achievement was the discovery of a new gas field by the ONGC in the north of Bassein structure. The full potential of this field will be known after a few more assessment wells are drilled.

The potential of South Bassein gas field is now estimated to be larger than 10 million cubic metres of gas per day anticipated earlier.

According to the report, the year witnessed completion of a number of projects. An outstanding feature in this regard was the laying in record time of 220 Kms long sub-sea oil and gas pipe-lines from Bombay High to Uran. Oil and gas started flowing through these pipe-lines from July 1978.

A similar crude oil pipeline from Salaya to Koyali of about 416 Kms ; together with a single buoy mooring (SBM) in Gulf of Kutch and shore terminal at Salaya were commissioned to feed Bombay High and imported crude to Gujarat Refinery.

During the year, the phase III of development of Bombay High which included laying of pipelines and the erection and commissioning of platform 'F' was completed. This helped raise the rate of production of crude from Bombay High to nearly 4.5 million tonnes annually from June 1978.

The report said that with the completion of phase III B of development of Bombay High by October 1980, the production of oil from this field is expected to increase further to nearly 7 million tonnes per annum.

In the onshore areas, exploratory drilling by ONGC resulted in discovery of hydrocarbons in the first well drilled in Walner, West Sobhasan, Gajera, and West Matwan structures of Gujarat.

Augmenting Steel Development Fund

Additonal resources to the tune of about Rs. 2000 million will be raised through price revision in the form of development surcharges on steel to provide for the approved development outlays in the steel sector during 1979-80. Announcing this in the Lok Sabha recently, the Union Minister for Steel and Mines, Mr. Biju Patnaik, said that these price increases would go into the Steel Development Fund which had already been established and would not result in increased realisations in the hands of producers in the public or the private sector. The bulk of the accretions to the Fund would be used for financing outlays essential for the creation of new capacities.

The Minister said that last year when the Lok Sabha was pleased to pass the Public Sector Iron and Steel Companies (Restructuring) and Miscellaneous Provisions Bill, he had stated that the public-owned Steel Authority of India Limited (SAIL) with its new structure, assets and capabilities should fulfill the public purpose of expanding India's steel production and set up new plants on its own. He had further stated that SAIL should be able to raise its own resources and minimise the draft on the Consolidated Funds of India for this purpose. During this session, in view of the acute shortage of various categories of steel, several Members had demanded the setting up of new steel capacities without

any dealy so that these shortages were not perpetuated.

The Minister said that over the last one year he had been diligently negotiating with various countries like the USSR, West Germany, the UK, the USA and Japan for obtaining credit facilities for the expansion of steel capacity in India. He was glad to inform the House that India's negotiations with some of the countries mentioned above made good progress. In exploring such possibilities the intention is to ensure an additionality of resources over and above those which have been taken into account in the Plan so that such projects can be undertaken without increasing the draft on the Budget. However, in order to supplement these external credits by rupee component increased generation of internal resources by the steel industry is absolutely essential.

Steel prices were last revised in June 1978, but the additional realisations to the Industry from that revision have been offset by cost increases resulting from a number of factors such as concessional pricing to the small scale industry, steep increases in the entry-tax on raw-materials and shortfall in production because of inadequate supplies of coking coal and indifferent power situation. The Budget documents indicate a Plan outlay of Rs. 6,000 million for the Steel Department for 1979-80. On the basis of current prices and the anticipated production in 1979-80, the internal resources of the public sector steel industry available for utilisation towards the Plan outlay could at best be around Rs. 300 million, and even this modest amount would probably be eroded by cost escalations. The bulk of the outlay of Rs. 6,000 million would thus have had to be met from the Budget and this would have substantially increased the overall budget deficit.

Having all this in mind, and after very careful consideration, Government have now decided (a) that the price of pig iron should be increased by Rs. 100 per tonne as a surcharge ; (b) that there should be an additional surcharge of 15 percent on the base price of all items of steel (exclusive of the development and import surcharges currently being levied) ; and (c) that these surcharges should be paid into the Steel Development Fund which has already been established. It has been estimated that these increases will result in the generation of additional resources, which, after providing for some compensation to the steel plants for uncovered costs and cost escalations, will leave around Rs. 2000 million for utilisation towards the approved development outlays on this sector. Necessary adjustment in the pricing structure will continue to be made to ensure that SAIL does not incur any loss due to the pooling of prices between the imported and domestic steel.

In deciding on these price increases Government have carefully considered their possible impact on the general price levels and are satisfied that this impact would not be significant. Even the revised prices will be lower than the prevailing domestic prices of steel in most of the other countries.

The Minister added that these price increases were in the form of development surcharges which would go into the Steel Development Fund and will not result in increased realisations in the hands of the producers both in the public or in the private sector. Only a small part of the accretions to the Fund will be utilised for cost compensations, and that too basis of studies of the actua Bureau of Industrial Costs a once in six months. The bu accretions to the Fund will used for financing outlays w essential for creating new ca

DICs Urged to Expedit Action Plans

The Union Minister of Indus George Fernandes, has stres need of implementing the acti of the District Industries (DIC) on a war-footing. also called for immediate co of such plans by those who done it so far.

In a letter to the General M of the District Industries Mr. George Fernandes has sa each Centre must also quickly the targets in specific terms current financial year and s everything was done to fulfil

The Industry Minister said he ensure that the All-India Small ries Board met as frequently necessary so that progress small industries programmes, sp in regard to District Industries C could be constantly reviewed monitored. Efforts would be to arrange a meeting at whic General Managers of District I ries Centres would also be p as it would be useful to hear d about their field experience.

While expressing happiness ove commendable efforts made by District Industries Centres in dra up of action plans, Mr. George nandes said that the real test w be in the implementation of plans, the setting up of units above all, the generation of em ment on a substantial scale.

ict Industries Centres must fun- in the spirit in which the idea been conceived, he added.

Geroge Fernandes said that an epreneur should not have to go where other than the District stries Centres which must be y active and provide him with ything to set up his unit. This, ointed out, called for real involve- t and dedication on the part eneral Managers and their team. responsibility that rested on them indeed, great and the eyes of the e country were on the District stries Centre programme.

eater Emphasis on Rural ctrification

a part of the strategy for the omic development of rural areas, ter importance is being given ectrrification of villages.

rding to the Annual Report of Department of Power for 1978-79, of the total number of nearly 00 villages in the country about 00 villages had been electrified 3.447 million irrigation pumpsets gised upto November 1978. Nearly 0 more villages were expected e electrified and nearly 210,000 pumpsets energised by the end larch 1979.

bstantial allocation of Rs. 14,500 on has been made in the mid- Plan 1978-83 for implementation ral electrification programme. In tion nearly Rs. 30 million are cted to become available for the ose from financial institutions. Plan envisages electrification of 00 more villages and energisation million irrigation pumpsets.

Report states that for the first a massive programme for the energisation of pumpsets has been undertaken with funds from the composit resources of the commercial banks, ARDC and Rural Electrification Corporation. An investment of Rs. 3,600 million is expected to become available for rural electrification under this programme.

In pursuance of the Government policy to extend electricity to the backward areas specially to weaker sections of the society, electrification of harijan basties continue to receive special attention. Both the State Electricity Boards and the Rural Electrification Corporation were instructed to ensure that in all schemes for rural electrification approved by them, the electrification of adjoining harijan basties was invariably included.

According to the Annual Report it had been observed in 1971 that in some cases while the main villages had been electrified, this facility had not been extended to the adjoining harijan basties. An amount of Rs. 45 million was provided in the Fourth Plan for the purpose of electrifying these left out harijan basties. These schemes have since been almost fully implemented. However, there are still a few thousand more harijan basties adjoining the already electrified villages which remain to be provided with the benefit of electricity. The Rural Electrification Corporation has been advised to obtain from the State Electricity Boards more schemes for electrification of such remaining harijan basties and approve them for financial assistance. It is expected that in this manner the entire backlog would get covered before long.

Savings from By-Products Use

Use of copper cake generated as a by-product at the Debari Zinc Smelter of the Hindustan Zinc Limited has resulted in an annual saving of about Rs. 3 million.

The by-product, which used to go waste earlier, is now being converted as copper sulphate which is required in the leaching process (washing) of zinc concentrates and re-used in the smelter. The cumulative production of copper sulphate from copper cake from April, 1978 to February, 1979, was 226.81 million tonnes.

The Debari and the Vizag Zinc Smelters have together produced about 45,303 tonnes of zinc during August, 1978-February, 1979, as against 28,269 tonnes last year. The cumulative production of zinc upto February during the current financial year was about 57,207 tonnes. Production in 1977-78 was 43,128 tonnes and in 1976-77, 27,034 tonnes.

Industrial Development of Arunachal

The Union Minister of Industry, Mr. George Fernandes, recently urged upon Mr. Gegong Apang, Arunachal Pradesh Industry Minister, to immediately set up a task force to evolve a marketing strategy for the oranges, guavas and pine-apples that grow in abundance in the Union Territory. Referring to the demand for a fruit canning and processing unit in Arunachal, Mr. Fernandes said that while it might take time to come up, marketing of fresh fruits could be taken up more quickly. Elimination of middle men and opening of the market in the plains, he added, would benefit both the farmers and the Territory's Government.

Mr. Apang and his officials had met Mr. Fernandes to discuss the industrial development of the Union Territory.

Mr. Apang drew Mr. Fernandes's attention to the proposed minicement plant project at Teding in Lohit District which had been approved in 1978. The Project is designed to produce 30 tonnes of cement per day. After ascertaining about the infrastructure facilities in the area, the quality of the minerals etc., Mr. Fernandes assured Mr. Apang that the Cement Corporation of India would be asked to proceed immediately to implement the project.

As for the Territory's demand for a paper mill, Mr. Fernandes felt that it might not be an economical proposition, still he would get the feasibility report, which the Arunachal Administration had sent to the Centre, examined.

It was disclosed at the meeting that the All India Handicrafts Board proposed to set up during the current year, five centres to train 125 persons in hand printed textiles, two centres to train 50 persons in cane and bamboo craft and one additional centre to train 50 persons in carpet weaving. Also, for building up marketing infrastructure, the Board proposed to set up one Marketing and Service Extension Centre at Itanagar. To overcome the artisan's difficulties in getting raw material and marketing the finished products, the Board had released Rs. 300,000 to the North-eastern Handlooms and Handicrafts Development Corporation for setting up three rural marketing and service centres at the block-level in the Territory.

Excise Benefits to Small Manufacturers

The Government has announced some changes in the excise exemption scheme introduced in the 1978 Budget for the benefit of small manufacturers of 69 specified exciseable commodities.

It has now been decided that a manufacturer who manufactures exciseable goods covered by more than one item number in the Central Excise Tariff will be eligible for he exemption scheme only if his total clearances of all exciseable goods for home consumption had not exceeded Rs. 2 million during the preceding financial year.

This has been done after considering representations received from some small manufacturers in which it was represented that some units with a large turnover were getting the benefit of the exemption scheme as it operates at present.

Another change made in the scheme is that those specified exciseable goods which have been exempted separately under any other notification issued under rule 8(1) of the Central Excise Rules are not to be taken into account in computing the value of clearances under the exemption scheme. The changes came into force from April, 1, 1979.

The scheme of excise duty concession to tyre units whose annual installed/licensed capacity does not exceed 500,000 numbers of tyres and 500,000 numbers of tubes, which was to expire on March 31, 1979, has been extended by one more year so that this concession will now be available to these tyre units upto March 31, 1980.

The Government has also decided that the benefit of excise duty exemption available to small scale units manufacturing goods falling under Item No. 68-CET shall be extended to small scale manufacturers of locks, tooth brushes and unspecified motor vehicle parts. This exemption would be available till the enactment of the Finance Bill, 1979 and thereafter these goods shall be exciseab Item No. 68 subject to the of exemption applicable to sm manufacturers under that ite changes have also been ma regard to cigarettes and chewir produced out of duty paid

Science and Techno

India Offers Technolo

About 158 Indian compani shown keen interest in p technology for the manufact large number of engineeri non-engineering products This is revealed in India Offe nology, a directory brought the Indian Investment Centr neering areas for which tec is being offered include auto automobile ancillaries, elect electronic equipment, industria nery, instruments, machine an tools, metallurgical industry an and light engineering industri

Non-engineering products are and cement-asbestos product mics, chemicals, dyestuffs a intermediates, drugs and ph uticals, food and brewery item glue and gelatin, plastics and products, pulp and paper p rubber products, soap, cosmet toilet preparations synthetic textiles, timber products, and ve oils, vanaspati and allied prod

Rourkela Develops New Plates

Working jointly on the pro of stainless steel clad mild Rourkela Steel Plant and IDL cals Limited, Hyderabad, have fully developed the process would soon enable Rourkela Plant to produce stainless Ste plates on a commercial scale.

igenous production of these plates immensely benefit the chemical istry which is now dependent on orts or uses plates made wholly n stainless steel. Being corrsion-tant, such plates are extensively l in chemical industry and are resent being imported.

ough the explosion clading process loped by the IDL Chemicals ited mild steel slabs were clad a stainless steel on one side. After dwitching two such slabs by using nerged arc welding process in Wagon Repair Shop of Rourkela l Plant, the slab was trial-rolled he plants Plate Mill. The trials e given successful results and the es rolled have conformed to the dards of bend test under tension pressure.

Union Minister for Steel and es, Mr. Biju Patnaik, compli-ted all those connected with these s on 'the excellent R & D work'.

ral Technology Cell

ell has been set up at the Indian itute of Technology, Delhi, with iew to coordinating research acti-s in the field of rural technology. ong other things, the cell will sfer the resulting know-how to ges in order to increase the pro-ivity of rural industries. In this ter the cell will seek the cooperation other agencies already in this .

e of the major projects on which Institute is presently working ude systems planning of water energy resources, rural develop-t, utilization of farm and forest e, urban mass transporation sys-, increase in loom speed, electrical gy systems, laser induced fusion, medium temperature solar collectors and industrial tribology and machine dynamics.

Sponsored by the Government agencies, the Institute has also undertaken research projects in a number of areas. The most important projects are utilisation of coal-based fuel in internal combustion engines, biogas as an alternative fuel, rural wireless communication system, artificial limbs, cheap solar water heaters, development of cheap thin film solar cells, refrigeration and preparation of synethetic lubricants.

Science and Technology for Economic Development

A 4-member delegation from Mexico led by Mr. Luis Echeverria, former President of Mexico and now head of the Centre for Social and Economic Studies of the National University had discussions with Dr. Atma Ram, Chairman, National Committee on Science and Technology (NCST), in New Delhi, recently. Prof. M. G. K. Menon, Secretary, Department of Science and Technology and other senior officials were also present. The two sides discussed the role of science and technology in speeding up social and economic development.

Dr. Atma Ram stated that the NCST was primarily concerned with the objective of removing impediments to the dissemination of appropriate technology as well as promotion of traditional technologies. The technology policy statement finalised by it aims at the spread of technology in under developed regions of the country, especially the rural areas.

Dr. Atma Ram emphasised the commonality of approach in the solution of developmental problems by the third world countries.

Mr. Echeverria stated that his Centre for Social and Economic Studies was meant for the benefit of the third world and would be interested in having active cooperation from the scientific and technology community from India. Such cooperation would enable countries in the Third World to fight the vicious circle of poverty giving rise to unhealthy situation of unemployment.

Mexico was interested in updating of tradtional technlogies and initiating cooperation in the problems of demographic growth, sloar energy, appropriate industrial technologies and other social and economic issues which have relevance to science and technology.

Bagasse-Based Paper Projects

The Government has announced a package of policy measures to attract entrepreneurs to set up bagasse-based project to produce paper.

Clusters of sugar factories would be given encouragement to set up paper and newsprint mills, in locations close to the sugar mills.

Bagasse from the existing boilers oan now be released by installation of steam economy devices on the existing boilers, conversion of existing boiler to coal fired boiler and provision of altogether a new coal fired boiler. Such improvements, conversions, additions or replacement of boilers could be a part of the capital cost of the paper mill.

It has also been decided that the financial institutions would give priority in extending assistance to such schemes in accordance with the favourable debt equity ratio that would be available for investments of this order. As the sugar factories would have to carry stocks of coal to meet their

requirements during the crushing season, the cost of transporting, financing and storing coal by sugar factories would be built into the cost of bagasse that would be supplied to the paper mills.

In order to offset the higher costs arising out of boiler replacement and the substitution of bagasse by coal in sugar factory boilers, the excise duty exemption would be given on writing and printing paper made with at least 75 percent bagasse for a period of three years initially, and the position would be reviewed thereafter.

The Railways would give priority for the movement of coal to the sugar factories.

Intending entrepreneurs are required to submit applications for industrial licences/registration for manufacture of paper and newsprint from bagasse.

These measures have been taken with a view to making use of unconventional raw materials to meet the present and future needs of the paper and newsprint industries of the country because one of the main impediments to the development of additional capacity for manufacturing paper and newsprint is the limitation in the availability of conventional forest-based raw materials. Also the usage of forest based raw materials has resulted in severe pressure on the already dwindling forest areas.

Bagasse which is a by-product of the manufacture of sugar is known to be technically suitable for the manufacture of paper. At present, it is being burnt as a fuel in the boilers of sugar factories. It is estimated that the bagasse from sugar factories in the organised sector alone, can support the production of over two million tonnes of papers and newsprint and, moreover, this quantity of bagasse is available on an annual basis, unlike forest resources which require to be re-generated over a period of ten years or more.

Computerisation at NIO

A course on Computer Programming was conducted recently at the National Institute of Oceanography, Goa, (NIO). The course was organised by the Planning and Data Division of the NIO with the help of experts from the Electronics Corporation of India Limited, Hyderabad. Attended by about 40 persons, the course was oriented to develop computerisation of the various jobs at NIO. The course included all the rules of FORTAN IV and was supported by about 20 exercises and extensive demonstration of various peripherals used in the computer. NIO is planning to conduct another course shortly on programming in COBOL.

NIO released recently a Directory of the Indian Ocean Region for the United Nations Environment Programme (UNEP). The Directory gives a comprehensive account of almost all the institutions in 13 countries in the Indian Ocean Region namely, Bangladesh, Burma, India, Indonesia, Malagasy Republic, Malaysia, Mauritius, Pakistan, Philippines, Saychelles, Singapore, Sri Lanka and Thailand. It contains the details of the capabilities of 79 institutions in the field of marine science. It also includes particulars of about 1040 marine scientists in the Indian Ocean region together with a list of publications from 1972 to 1976 numbering 1013. The Directory is the first of its kind for the Indian Ocean region to be produced for any specialised agency of the United Nations. The entire work pertaining to this Directory was carried out NIO.

Towards Higher Agricultural Production

Agriculture has shown a marginal better performance in 1978-79, the first year of the Sixth Five Year Plan 1978-83, over the record achievement in 1977-78 in spite of the devastating floods over large parts of the country during the year. Total food grain production during 1978-79 is expected to be more than the 125.6 million tonnes achieved last year. This is stated in the Economic Survey of the Government of India for the year 1978-79.

Agricultural production which had experienced a decline in 1976-77 registered a significant increase in 1977-78. The output of foodgrains at 125.6 million tonnes was 14.4 million tonnes higher than that in 1976-77 and 4.6 million tonnes more than in 1975-76. Out of the 14.4 million tonnes increase in foodgrains production, rice contributed 10.8 million tonnes, jowar 1.3 million tonnes and wheat 2.3 million tonnes. On the other hand, the production of bajra declined by nearly 20 percent. Maize and barley suffered a small decline and the production of pulses registered only a marginal increase. Like major cereals, the production of commercial crops also exhibited a certain buoyancy.

The production of oilseeds increased by 14.2 percent to 8.9 million tonnes while that of groundnuts alone rose by 15.4 percent to 6.1 million tonnes. The output of cotton rose by 21 percent to 0.71 million bales and that of sugarcane by 18.5 percent to 181 million tonnes (in terms of gur). The output of jute and mesta, however, remained at the previous year's level.

x of agricultural production
n ending 1969-70—100)scaled
eak of 132.6 registering an
f 13.9 percent over 1976-77
percent over 1975-76. The
foodgrains was higher by
nt and that of commercial
12.2 percent.

encouraging feature of the
al performance in 1977-78
increase in rice production.
up by 26 percent and was
t higher than the record
n in 1975-76. Almost all
s have shared this increase
as particularly significant in
adu, Madhya Pradesh, Pun-
r Pradesh, Karnataka, Bihar,
d West Bengal. The position
ve been still better but for the
the second crop of rice
eavily in the coastal areas of
States, particularly in Andhra
n account of a severe cyclone
nber 1977. The production
and jowar also registered
increases, setting up new
It is worth noting that the
in production was largely due
productivity and was shared
st all the major producing

couraging performance of
re no doubt took place in a
good weather, but the fact
that weather conditions in
were by no means more
le than 1975-76. Yet the
n of foodgrains in 1977-78 was
y 4.6 million tonnes and
ral production as a whole by
ent than the earlier peak.
rly indicates the strengthening
productive potential and its
to stabilise at higher levels.

ospects for the agricultural
for 1978-79 appear good.
The south-west monsoon set in well in time and the rainfall upto September was normal or in excess of normal in most parts of the country. This facilitated extensive sowings of kharif. However, excessive rains in the catchment areas of major rivers in the North caused heavy floods in Rajasthan Uttar Pradesh, Bihar and West Bengal. West Bengal was hit by floods three times during the year. These heavy rains and floods took their toll and caused considerable damage to rice, maize and to some other crops in the affected areas. But in other areas most of the crops have fared well and the damage caused by the floods is likely to be largely compensated by higher production.

The production of kharif rice may be around last year's level of 49.3 million tonnes. While production of kharif jowar, maize and small millets may be somewhat lower, that of bajra may be higher than last year. The production of arhar and other kharif pulses may also be around last year's level. On the whole, therefore, the production of kharif foodgrains may be almost at the same level as that in 1977-78. The prospects for rabi, on the other hand, appear to be brighter. The residual moisture left by heavy rains and floods has enabled timely sowing of most of the rabi crops. Since winter rains have been received in time, the output of wheat, barley and gram may even exceed last year's level. The production of foodgrains during the year can, therecore, be expected to exceed the target of 126 million tonnes.

The prospects for commercial crops are also fairly good. The production of cotton is likely to exceed the record of 7,160,000 bales reached in 1974-75. Groundnuts and other oilseeds are also expected to fare equally well. Sugarcane production may not be much below the record level reached in 1977-78. Despite some damage to the jute crop in West Bengal the combined production of raw jute and mesta may still exceed last year's level.

There is no doubt that favourable weather during the last few years has been an important factor in the encouraging performance of agriculture. However, the growing strength of the agricultural sector is also explained by other factors such as, a substantial increase in irrigation, a sharp increase in fertiliser consumption, an expansion in agricultural credit, a growing capability of agricultural research and policies such as buffer stocking, price and marketing support and other production-oriented measures.

During 1977-78, 2.6 million hectares are expected to be brought under irrigation which will be a record for all time. The rate of addition to the irrigation potential has been considerably stepped up from around 1 million hectares per annum during 1970-71 to 1974-75, to about a little less than 2 million hectares per annum during 1975-76 and 1976-77. The target for 1978-79 is 2.8 million hectares. A great part of the increase has come from minor irrigation sources. In 1977-78 alone, about 1,500 public tube-wells, 150,000 private tube-wells and 220,000 dug-wells were constructed. The target for 1978-79 is 3,500 public tube-wells, 225,000 private tube-wells and 245,000 dug-wells. As against the installation of about 280,000 pump sets in 1977-78, the target for 1978-79 is 350,000. Interestingly, the tempo of expansion of irrigation seems to be gathering a momentum in those States also where the annual water exploitation in relation to available potential is rather low, namely, Bihar,

Madhya Pradesh, Assam, Orissa and West Bengal. Since irrigation is one of the most labour intensive and employment generating operations it forms a crucial element of the new agricultural strategy.

Equally encouraging is the continued spurt in fertiliser consumption in recent years. In terms of nutrients, fertiliser consumption increased to 4.29 million tonnes in 1977-78 which is 25.7 percent higher than that in the previous year and 67 percent higher as compared to 1974-75. During the current year also fertiliser consumption is expected to increase by about 18 percent.

Facilities for substantially larger production of quality seeds—both of hybrids and self-pollinated crops—are being organised under the National Seeds Programme. The strategy consists in undertaking production through growers in different States under an arrangement with the State Seeds Corporation. In addition, the National Seeds Corporation and the State Farm Corporation of India would undertake some production. The objective is to ensure that availability of seeds does not constitute a c on production.

The role of expanding research lity has been very important context. The major thrust of c research programmes is to yield improvement concurrent stability of yield. There hav major advances during the yea development of rice varieties possess resistance to some c important pests and diseases.

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
International Trade Fair, Maputo (Mozambique)	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14-23, 1979.
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25-November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8-12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25-29, 1979
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

Highlights

r Exports by Rourkela

ela Steel Plant exported 2,651 of galvanised sheets and electrical ace welded (ERW) pipes to the Union, Burma and Bangladesh at Rs. 66.18 million during 1978-79. xport of galvanised sheets went 6,161 tonnes and ERW pipes to tonnes compared to the previous exports of 6,000 tonnes of galvanised and 18,900 tonnes of ERW pipes.

ing up Agricultural Exports

force for making suggestions on tural exports has been constituted. indicated the possibility to increase tal annual agricultural exports to Rs. 31,000 million against the level of about Rs. 18,480 million. to implement major recommendaof the task force has already been ed. The export would not be at the home consumption.

riber Telex Dialling to Malaysia

iber dialling facility has been made ble on international telex service laysia. With this fully automatic iber dialled international telex

(*Contd. on page 2*)

Export Performance and Potential

India to Assist in Algerian Projects

India and Algeria have identified several industrial projects in Algeria for participation by Indian firms.

A Memorandum of Understanding to this effect was signed in New Delhi recently between Mr. George Fernandes, Union Minister of Industry and Mr. Mohamed Liassine, the Algerian Minister for Heavy Industry.

An impressive beginning has been made recently with Indian firms securing contracts for a value of Rs. 400 million covering the fields of consultancy, electricity, machine tools, meter manufacture and engineering construction. The project being implemented by the Hindustan Machine Tools (HMT) in Algeria for manufacture of meters is for a value of about Rs. 90 million.

The framework of further cooperation agreed to by both the Ministers envisages participation of Indian firms and their assistance in several projects in Algeria, e.g. in manufacture of cutting tools, electronics, electrical equipment, setting up a spare parts design bureau for the El Hadjar Steel Complex, erection, civil construction, design and production of steel structurals, coal mining projects and production of components and accessories for large industrial complexes in Algeria. Another important area of cooperation relates to participation by HMT in setting up of training centres for mechanical and other engineering disciplines in Algeria.

It has been agreed that negotiations would be taken up between the two

service from India is now available to 30 countries namely, Australia, Austria, Bahrain, Belgium, Canada, Denmark, Finland, France, West Germany, Hong Kong, Italy, Iran, Japan, Kuwait, Malyasia, Maldives, Netherland, New Zealand, Norway, Philippines, Qatar, Saudi Arabia, Singapore, Sri Lanka, Switzerland, Sweden, United Arab Emirates, United Kingdom, USA and USSR.

More Licences for Cement Industries

Thirtyfive letters of intent and seven industrial licences for cement industries, for a total capacity of 15.05 million tonnes were issued from April 1, 1977 to April 7, 1979, while only seven letters of intent and eleven industrial licences for a total capacity of 8.46 million tonnes were issued from April 1, 1974 upto March 31, 1977.

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Encouraging Trends in Industrial Production 13

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countires for long-term contracts for supply of petroleum oil to Ind and of engineering components from India to Algeria.

The framework of cooperation also establishes preferred relations in respect of Indian cooperation in all sectors of Algerian economy. T projects in which India would participate also include services, cons tancy, deputation of Indian personnel and training of Algerian personnel.

The value of identified projects to be negotiated further by Indian counter part organisations, chiefly Heavy Engineering Corporation (HEC), HMT Metallurgical and Engineering Consultants (India) Limited (MECON Hindustan Steelworks Corstruction Ltd. (HSCL), Bharat Heavy Plates & Vessels (BHPV), ETTDC, Electronics Corporation of India Ltd. (ECIL Mining and Allied Machinery Corporation of India Limited (MAMC comprise a value in the first stage of about Rs. 2,000 million.

Time bound programme for submission of detailed commercial offers by Indian firms and negotiations have been laid in the Memorandum of Understanding and the progress will be reviewed periodically by the two Ministers.

The Algerian Minister has extended an invitation to Mr. George Fernandes to visit Algeria. This has been accepted and the visit would provide an opportunity to review the further progress of Indian participation and assistance in important large value projects in Algeria.

The Algerian Minister, accompanied by the Directors General of SN Metal, an Algerian public sector enterprise which is concerned with engineering and structural industries, and SONELEC which is concerned with manufacture of electricals and electronics, arrived in India on April 17, 1979 on an eight-day visit. He had detailed discussions also with Mr. Biju Patnaik, Union Minister of Steel & Mines and Mr. Mohan Dharia, Union Minister of Commerce.

The Algerian delegation visited and had detailed discussions with the Heavy Engineering Corporation, Ranchi, Mining and Allied Machinery Corporation of India Ltd. Hyderabad, HMT Limited, Bangalore and Bharat Electronics Limited, Bangalore, Indian Telephone Industries (ITI), Bangalore and Bharat Heavy Plates & Vessels Ltd., Visakhapatnam.

Indo-UAE Joint Venture Plant

The proposed joint venture sponge iron plant in the United Arab Emirates (UAE) based on Indian iron ore pellets and the natural gas of UAE was discussed when the UAE Minister for Petroleum and Mineral Resources, Dr. Mana Saeed Al-Otaiba, called on the Union Minister for Steel and Mines, Mr. Biju Patnaik, in New Delhi, recently.

Referring to the detailed study on the proposed project already prepared, free of cost and in record time, by the Metallurgical and Engineering Consultants (India) Limited (MECON), Mr. Patnaik urged that a quick decision on the project could now be taken on the basis of the comprehensive MECON report to avoid delay in implementation.

Dr. Otaiba assured that he would take up the matter with his government so that a decision on this could be taken expeditiosuly. Dr. Otaiba was on a five-day visit to India.

It may be mentioned that the idea of a cooperative production pattern is intended to ensure the maximum mutual advantage to India and some of the countries of the Middle East and Asia, based on the complementarity

resources. Since some of the iron produced in such joint plants could be imported in the electric arc furnaces in this would assure the mini lustry of a ready source of raw l to supplement scrap at ble rates.

ray Project in Syria

ssibility of construction of a long railway line between -Zor and Abu Kamal in by Indian Railways was dis- at New Delhi recently by the Syrian Minister of Transport, lim Yassin and the Union y Minister, Prof. Madhu Dand-

ubjects figured in discussion d installation of rails and signal- d communication equipment, rks and financing of the project.

ning the Syrian Minister, Prof. Dandavate said that India illing to share expertise and ent with Syria and other y countries. He assured the er that, as desired by him, n of officials would be sent to cus in a month's time by Rail Technical and Economic Services S) and Indian Railway Con- on Company, to have further of the project.

who participated in the dis- included the Chairman of the ay Board, Mr. K.S. Rajan, Members of the Board, Mr. G.P. r, Chairman of the Rail India ical and Economic Services and dian Railway Construction Com- and the representatives from the Ministry of External Affairs Department of Economic Affairs Ministry of Finance.

easibility study of this project as well as two other railway lines in Syria was completed by RITES in July 1976.

The completion of Abu Kamal line in Syria and the Baghdad-Hsaibab line in Iraq which is now under construction and scheduled to be completed by 1982, would provide a continuous overland route between Arabian Gulf and the Mediterranean sea outlets as well as Europe via Turkey.

Notable Rise in Exports to USA

According to a commercial report of the Embassy of India, Washington, India's exports to USA during the nine months period, April to December, 1978, stood at $732.27 million, an increase of 21 percent over the comparable figure of 604.79 million recorded in 1977. Rapidly growing items in India's exports to the USA were diamonds, which increased by $78.53 million or 73 percent over the 1977 figure; textiles as a group, an increase of $28.73 million or 27.7 percent and engineering goods, $16.98 million or 76 percent. Other items which recorded satisfactory increases were sports goods, footwear, carpets and rugs, coffee and leather. Marine products showed a decline of $9.42 million or 25 percent while edible nuts, mostly cashew, declined by 12.91 million or 38.6 percent as compared to the 1977 performance. Exports of tea declined precipitiously by 82.7 percent while woven fabrics of jute declined by $11.79 million or 17.5 percent.

India's exports to the United States have shown an increasing trend over the last four years rising from about $550 million in 1975 to about $980 million in 1978 or an average annual increase of over 19 percent, the biggest increase being in 1978 when there was a $200 million or about 26 percent increase over the exports in 1977. The 1978 performance was particularly good keeping in view that two of India's major items of export, namely, sugar and tea showed substantial fall due to India's domestic constraints and policies. Most of the increase achieved in 1978 was on account of items such as diamonds and precious stones, textile apparel, leather and leather goods and engineering goods. The performance of engineering goods has been especially noteworthy and this is one category which offers substantial scope for increase in the United States due to the enormous market.

On the import side there has been a substantial drop mainly because India is no longer importing foodgrains from the USA. Imports during 1975 amounted to about $1.3 billion. By 1977 the imports had dropped to about $775 million. During 1978, however, imports have increased substantially and have amounted to about $940 million. The rise in 1978 has been due mainly to increase in imports of aircraft, fertilizers and machinery items. Due to India's recent liberalisation of imports the possibilities of importing machinery from the United States have improved considerably.

The overall trede balance which was highly unfavourable to India in 1975 has improved in her favour and in 1978 India had a favourable trade balance of about $40 million.

Among the major items of India's export to USA during April-December, 1978 were: diamonds ($185.93 million); textile made-ups ($109.96 million); woven fabrics of jute ($55.41 million); coffee ($38.36 million); leather ($28.31 million); marine products ($28.16 million); carpets and rugs ($25.69 million); edible nuts ($20.53 million); gums, resins, lac and balsams ($19.15 million) and cotton fabrics ($17.59 million).

As regards India's imports from that country during the above period, the principal items were: soyabean oil ($113.92 million); fertilizers ($95.57 million); transport equipment ($81.27 million); aircraft and parts ($77.51 million); cereals ($40.83 million); inorganic chemicals ($28.23 million); organic chemicals ($25.80 million); milk and cream-dry ($17.78 million); electrical machinery/equipment ($16.11 million) and malt extracts of flour ($9.50 million).

Indo-Romanian Trade and Economic Collaboration

India's trade and economic relations with Socialist Countries under Bilateral Trade and Payments Agreement have emerged in the last two and a half decades as a very significant factor in India's foreign trade. The growth of Indo-Romanian trade has been a part of the dynamic growth of India's trade with Socialist Countries. The spectacular growth in the friendly relations between India and the Socialist Bloc is reflected not only in the increase in the total volume of trade but also in enhanced number of joint ventures negotiated. Although, the growth of Indo-Romanian trade was modest with a total turnover of Rs. 0.31 million in 1953, in recent years trade between the two countries has shown not only a fast rate of growth but also a fair promise for growth to much higher levels in future. The bilateral trade touched a level of Rs. 818 million in 1976 and was of the value of Rs. 554 million in 1977. The overall growth rate in the total trade turnover between the two countries upto 1973 was only 20 percent. However, between 1973 and 1974 the trade grew by 72 percent and between 1974 and 1975 by about 23 percent. In 1975-76, there was a growth rate of 23 percent. The table below sums up the actual imports and exports between India and Romania during the last years :

(Rupees in million)

	1973	1974	1975	1976	1977
Imports	161	373	334	256	202
Exports	152	167	332	562	352
Total	313	540	666	818	554
Balance of Trade	—9	—206	—2	+306	+150

The commodity composition of goods exchanged between India and Romania is becoming greatly diversified. Principal items of exports from India to Romania consist of iron ore, coffee, de-oiled cotton seed extractions, machine tools such as automatic lathes, jute bags, cotton textiles, crushed animal bones, various engineering items, etc. The prospects of growth are particularly bright for the export of manufactured and semi-manufactured items from India as the interest of Romania in buying India's long traditional and non-traditional items is on the increase. Imports from Romania on the other hand consist of urea, wheel sets and other components for railway wagons, tractor components, rolled steel and steel products, capital goods, machinery and equipment, oil prospecting and drilling equipment, various organic and inorganic chemicals, electronic television components and electronic automation equipment.

The first Trade and Payments Agreement between India and Romania was signed in 1959. After a lapse of fifteen years on March 24. 1971, a long-term Indo-Romanian Trade and Payments Agreement for 1971-75 was signed in Bucharest. This Agreement, in keeping with the Government of India's policy, incorporated three new clauses regarding bilateral cooperation, joint ventures in third countries and increasing contacts at enterprise level between trading, manufactur and actual-user organisations in two countries. This Agreement replaced by a new Trade and Payme Agreement in December, 1975. It valid for a period of five years and salient feature of this Agreement that the 'Gold' clause in the earl Agreement has been replaced by clause linking 'Rupee' to the SD making necessary adjustments in t value of rupee.

A look at the overall trade between t two countries would reveal that the has been a progressive increase in t trade plan provisions i.e., from Rs. 4 million in 1970 to Rs. 1,330 million i 1977 and Rs. 1,454 million for 197 The trade plan for 1978 thus envisage an increase of about 10 percent ove the trade plan of 1977. The meteori rise in the trade plans between Indi and Romania speaks of the succes of friendly relations between the tw countries.

Several Romanian delegations wh have visited India since the signing o the first Agreement have returned greatly impressed by the tremendous progress India has made in the indus trial field and are convinced that a friendly country such as India can offer Romania the benefit of her vas experience and technical know-how in setting up joint ventures in third countries.

The trade turnover has been in favour of India since 1976. During 19

ports to Romania exceeded
ts by about Rs. 150 million.
rstood that to enable Ro-
overcome the temporary
in trade, technical credit
Rs. 40 million has been
by India. It is a matter of
faction now that the commo-
changed between the two
comprise of a product-mix
aditional and non-traditional
a result of the trade talks,
y now import from Roma-
nodities such as caprolactum,
newsprint, PVC resins and
, on the other hand, may
om India items like printing
y and such other goods in
near future.

as economic collaboration is
d, the pace has been well set
joint ventures are functioning
with Romanian collaboration
such as Tamil Nadu for pro-
of finished leather and assemb-
tractors in Andhra Pradesh.
tter of fact, possibilities have
xplored for cooperation and
ation between the two coun-
the field of power and energy,
emicals, oil refineries, steel
-ferrous metal industries and
ural machinery. Possibilities
o been explored for joint ven-
third countries and lists have
changed of equipment which
e supplied by each other for
ojects. A healthy shot in the
the existing friendly relations
India and Romania has been
ing up of an Indo-Romanian
ommission in 1974 which has
couple of meetings. The last
was held in March 1978, as
of which, new areas of cooper-
and collaboration have been
d and there are strong possi-
hat joint ventures in third coun-
tries mostly in oil technology might come up very soon.

India has considerably liberalised her import policy for bringing a large number of items under OGL. So, there is a large scope for Romania to supply India items like machinery for leather industry, jute industry, plastic raw materials and components for electronic industry, etc. India, on the other hand, could supply Romania cold rolling mills for which there is a great demand in that country.

All said and done, prospects for future trade and economic collaboration between the two countries are indeed bright. Needless to say that the existing relations between the two countries are bound to grow from strength to strength.

Foreign Exchange Reserves Go Up

According to the annual report of the Union Finance Ministry for the year 1978-79, India's foreign exchange reserves (excluded Gold and Special Drawing Rights) which had increased by 13,712.9 million in 1976-77 from Rs. 14,917 million at the end of March 1976 to Rs. 28,629.2 million at the end of March, 1977, rose further by Rs. 16,367.6 million in 1977-78 to Rs. 44,997.5 million at the end of March, 1978. There has been, however, a distinct slow down in the pace of reserves accumulation during the current financial year. Upto January 31, 1979, the increase in reserves amounted to Rs. 5,819.6 million (12.93 percent) as compared to Rs. 10,963.2 million (38.29 percent) during the corresponding period last year. The increase of Rs.5,819.6 million, during the period April 1, 1978 to January 31, 1979, is the net increase after payment on account of repurchases of outstanding obligations to the IMF of SDR 201.34 million (Rs. 2,123.1 million) under the 1975 Oil Facility drawings. During the preceding year, such repurchases on account of remaining part of the drawal under credit trancho and outstanding gold trancho drawal together amounted to Rs. 2,490 million. Taking into account impact of these transactions with the Fund, the foreign exchange reserves would have increased by Rs. 7.942.7 million (17.65 percent) during the current year upto January 31, 1979 as compared to Rs. 13,453.2 million (46.99 percent) during the corresponding period last year.

The report says that in view of the improvement in the country's foreign exchange reserves position, an effort was made in 1978 to liberalise procedures and simplify the exchange control regime. Perhaps the most important step was the abolition of the 'P' form shich had been introduced at a time of foreign exchange stringency but which had become a source of irritation and inconvenience to those who are required to travel abroad. The rules regarding the frequency of travel permitted as also the release of foreign exchange for travel abroad for various purposes have also been relaxed. The Foreign Travel Scheme (FTS) has been liberalised and now any Indian can travel abroad once in two years with a release of $ 500, irrespective of the carrier by which he travels and which can be had from any nationalised bank designated for this purpose. In order to ensure that Indians going abroad on foreign travel carry adequate foreign exchange and thus reduce the temptation to enter into compensatory payments, scales for release of foreign exchange for students, businessmen and study tours by Members of Parliament have

been increased substantially. Members of State Legislatures will also now have a special study tour quota for their study tours abroad. With a view to encouraging the tourist industry, foreigners and non-residents will no longer be required to pay their hotel bills in India in Foreign currency.

Substantial Increase in Tourist Arrivals

During 1978, about 7,48,000 tourists (excluding nationals of Pakistan and Bangladesh) visited India. This shows an increase of nearly 16.8 percent over the number of tourists who visited India in 1977. India's gross foreign exchange earnings from tourists in 1978 were estimated at Rs. 3,300 million at the current price level. This is stated in the annual report of the Union Ministry of Tourism and Civil Aviation for the year 1978-79.

According to the report, India expects to cross one million mark of overseas tourist arrivals during the year 1980. To mark the occasion and also to project India's image abroad, particularly in the social and cultural spheres of tourism, it has been decided to celebrate 1980 as 'India Tourism Year'. State Governments and Union Territories as well as other allied agencies will be closely associated in drawing up the campaign for the purpose. To spread tourism consciousness in the country and outside, more than six million units of tourist publicity literature in a number of foreign languages were produced during 1978-79 at a cost of nearly Rs. 8.2 million.

The report says that a new orientation has been given to the Tourism policy which lays emphasis on the development of tourist facilities to cater for the 'budget-minded' tourists both domestic and international and the less affluent sections of the society.

In pursuance of this policy it was decided to construct and encourage construction of 'Yatri Niwas' (Janata Hotels) for providing clean and inexpansive accommodation for middle income and budget tourists.

The report says that to provide better facilities to large number of people visiting various pilgrim centres, the new policy lays greater stress on the improvement and expansion of the existing Dharamshalas, Sarais and Musafirkhanas, as well as construction of more of these. For this purpose the Department of Tourism had sponsored the registration of the society called 'Bhartiya Yatri Avas Vikas Samiti'.

The main functions of the society will be to construct, establish, expand and provide grants/loans for maintenance of Dharmashalas, Sarais, Musafirkhanas and other similar institutions. The society will get grants from Central and State Governments.

Keeping in view the increasing importance and need for inexpensive hotels to cater to the domestic and budget tourists, Government has approved the construction of a 1250-bed Ashoka Yatri Niwas at Delhi. The first phase of this hotel will be completed in 1980-81.

There are at present 18,511 rooms on the approved list of the Department of Tourism as against 17,362 at the end of 1977-78. 76 new hotel projects which are under construction will add 4,718 rooms to the existing hotel capacity.

Tourist Bunglow at Sevagram (Maharashtra) was under construction and is likely to be commissioned during 1979-80. Similarly, tourist hostels at Pondicherry and Trivandrum are likely to be commissioned shortly. Construction work of the yo at Mysore is in progress.

Air India Fleet Being Strengthened

With the addition of one 747 during 1978-79, the aircr of the Air India at present of 15 aircraft which include, 9 707 and six Boeings 747.

According to the annual re the Union Ministry of Tourisr Civil Aviation for the year 1 Air India is acquiring three mo aircraft. One is likely to be d in December, 1979 and the oth in March, 1980. In addition India is acquiring one Boeing as replacement, which is expect be received in August, 1979. will bring the total to nineteen air

During the period April to Novem 1978 Air India earned a net p of Rs. 137.6 million against the b geted figure of 173.6 million. shortfall was due to partial cancella of 747 services due to an accide an aircraft on August 29, 1978. aircraft sustained extensive dam and had to be grounded. It has si been put into operation from Octo 1978.

During the period April to Aug 1978 the Corporation earned a ca revenue of over Rs. 320 million against Rs. 300 million earned dur the same period last year.

The report says that Air India opera more than 60 services per week, USA, UK and other countries Europe Japan, Australia, Singapo Africa, Mauritius and Gulf countri

Air India conducted various traini programmes for the staff of the airli and other countries. Seventy six tr

grammes were conducted 1600 participants. Special es were arranged for the oyal Nepal airlines at Kath- ob training was provided to nnel of Kuwait airways, Air s etc.

ustrial Growth and ersification

ser Production Goes

on of nitrogenous fertilisers country during 1978-79 was to be 2.18 million tonnes, llion tonnes more than the on in 1977-78, according to al report of the Union Ministry eum, Chemicals and Fertilisers.

ort said that the production hatic fertilisers during 1978-79 mated at 0.77 million tonnes d to 0.67 million tonnes pro- the previous year.

d production of nitrogen and tes during the year, besides dependence on imports, was to yield a foreign exchange f Rs. 750 million.

ere 26 large size units in the producing nitrogenous and fertilisers. In addition, there unit producing triple-super te and 29 small units producing uper phosphate. The total capacity for nitrogen was llion tonnes and for phosphates llion tonnes.

ort said that the progress of ntation of new fertiliser plants factory and Nangal expansion mbay IV plants had started commercial production during the year.

In addition to the operating plants, 11 fertiliser projects were in various stages of implementation. Of these, Bhatinda, Panipat and Sindri Modernisation units were expected to start trial production by the end of the current year.

With the commissioning of the units under implementation, the capacity for nitrogen would rise to 5.12 million tonnes and for phosphates to 1.31 million tonnes by 1981-82.

The report said that the demand for fertilisers by 1982-83 was expected to be 5.25 million tonnes of nitrogen and 1.6 million tonnes of phosphates. To bridge the gap between expected demand and installed capacity, earnest efforts were being made by the Ministry to augment fertiliser production capacity.

It was proposed to set up four large-size nitrogenous fertiliser units, two each in Maharashtra (at Thal) and Gujarat (at Surat) based on Bombay High and Bassein gas. Another unit is proposed to be set up in Assam, based on gas available from Oil and Natural Gas Commission and Oil India fields.

According to the report, techno-economic feasibility reports for the gas-based fertiliser units in Maharashtra and Gujarat had already been received and were being processed for investment decisions.

A letter of intent had also been granted for expansion of a private sector plant at Kanpur based on naptha as feed-stock.

The report said that preliminary studies for setting up of additional phosphatic fertiliser capacity had also been undertaken.

The prices of fertilisers, according to the report remained stable during 1978-79. This led to increased consumption of fertilisers in the country. The consumption was expected to be about 3.4 million tonnes of nitrogen and 1.05 million tonnes of phosphates in 1978-79 compared to 2.913 million tonnes of nitrogen and 0.867 million tonnes of phosphates in the previous year.

The report said that the retention price scheme for straight nitrogeneous fertilisers was well received by the industry. On the recommendations of the Fertiliser Prices Committee, the system of retention price was also extended to complex phosphatic fertilisers and triple super phosphate from February 1979. These fertilisers had also been brought under statutory price control from that date.

During the year, the Government introduced a scheme for subsidy on movement of fertiliser by road to reduce pressure on railways. Under the scheme, fertiliser manufacturers were paid the difference between the expenditure incurred on road and railway freight.

Increased Steel Availability

Availability of steel during the last financial year, 1978-79 recorded an increase of about 16 percent over 1977-78. Production in the six integrated steel plants, together with the increased output of mini-steel units and the timely import of certain essential categories where shortages had been experienced made it possible to cope up with the tremendous upsurge in the domestic demand for steel, making available to the country a total of 8.2 million tonnes of steel in 1978-79

as against 7.1 million tonnes in 1977-78. Addressing the Parliamentary Consultative Committee of his Ministry recently, the Union Minister for Steel and Mines, Mr. Biju Patnaik, said that it was essential for laying firm foundations of the country's future economic growth to plan for the expansion of steel capacity to fully meet the projected increase in demand over a period of time. The recent exercise at generation of internal resources, though necessarily a hard option, was meant primarily to fill the budgetary gap and to provide for the outlay on the development of this vital sector.

The Minister said that public sector steel units under Steel Authority of India Limited(SAIL) earned a net profit of Rs. 366.8 million in 1977-78. The latest estimates indicate a profit of Rs. 420 million for the public sector steel plants, for the year 1978-79. This was despite the cost escalation resulting from excise duty on coal and power with effect from March 1, 1978, wage increases due to variable dearness allowance, entry tax imposed by the Madhya Pradesh Government on movement of raw materials, reduction in stock-yard margin, and substantial rebate to the Small Scale Industries (SSI) Corporations. Referring to Bokaro, Mr. Patnaik explained that with the expiry of the moratorium for interest in loan for 1977-78, interest liability of Bokaro went up by as much as Rs. 500 million during 1978-79.

It was mentioned in response to questions from the Members that general comparisons between public and private sector steel plants were misleading. For example, in 1977-78 Bhilai earned a net profit of Rs. 387.6 million as against net profit of Rs. 77 million of the Tata Iron and Steel Company (TISCO).

On the quality of steel produced in the steel plants, Members were informed that the percentage of tested, good-quality steel was as high as 92 percent in 1978-79 in Bokaro and 83 percent in the case of both Bhilai and TISCO.

In view of the normal problems of mining and movement of coal during monsoon period, steps had been taken to build up stocks to a bare minimum of 320,000 tonnes and then to a safe operating level of 500,000 tonnes. The Minister clarified that the cut-back in the coke oven pushing was decided in the context of the need to build up coal stocks before the onset of mansoons.

In reply to a question on the Kudremukh Project, it was stated that the Project was progressing on schedule and that the concentrates would be ready for shipment to Iran by September, 1980.

As regards the progress made on the proposal mooted earlier to extend steel distribution network to rural areas it was stated that plans had been drawn up to establish, in the first phase, 80 steel distribution centres in the rural areas. Ultimately there would be about 5,000 such centres at the rate of one in each Block.

More DICs Set Up

The number of District Industries Centres (DIC) set up during 1978-79 has touched the figure of 346 as against 180 envisaged at the time of the introduction of the Scheme in May last year. In the month of March alone, 83 Centres were sanctioned.

Twelve States have been so far fully covered under the DIC programme and the remaining districts in States are expected to be covere the next few months. The S are Bihar, Gujarat, Himachal Pra Jammu and Kashmir, Har Kerala, Madhya Pradesh, Mar Meghalaya, Orissa, Uttar Pradesh West Bengal.

According to the information rece from 153 DICs up to the end of M this year, 48,882 entrepreneurs identified and 13,493 project pro prepared to enable them to ch suitable product lines. This resu in the setting up of 35,078 units the decentralised industrial sector p viding additional employment 1,09,495 persons. Nearly one th of the new units are in the sm scale sector mostly located in se urban and rural areas and the r are artisan-based.

The credit assistance provided by t financial institutions in these DI during the period amounted to R 425.1 million. Cash subsidy amounti to Rs. 83.3 million was provided 3,122 units while 1,665 units we given seed/margin money of Rs. 14 million. In addition, 453 sick uni were assisted and technical, manag ment, marketing and raw materi support provided to 36,962 units.

The Industrial Potentiality Surve Reports in almost all the DICs hav been up-dated and action plans i respect of 150 DICs already prepared

Significant Improvement in Power Sector

The Union Energy Minister, Mr. P Ramachandran, has called upon the State Governments to undertake con tant monitoring of power generation with a view to identifying bottlenecks and taking remedial measures. He said

issioning of projects required
olvement and participation
ite Electricity Boards (SEB)
Governments as the res-
for execution of most of
cts rested with the SEBs.
achandran was presiding over
d meeting of the Standing
e of State Power Ministers'
e at New Delhi, recently.

bout the significant improve-
the power supply position
country, the Minister said
total power availability in
sector during 1978-79 excee-
200 million units which was
it more than the total gene-
92,196 million units during
ous year. Talking about the
capacity, the Minister said
result of constant monitoring
nstruction of power projects
ighest level there had been
tion of 3022 MW of new
g capacity during 1978-79
t the previous year's addition
MW, marking an increase
rcent. This was the highest
f new additional capacity
in any one year so far.

nister said that in the context
ive power generation prog-
nvisaged in the ensuing period,
ly commissioning of projects
great importance. In this
on he cautioned the State
ty Boards to take special care
n critical areas like material
, mode of construction techni-
pply of equipment, harmonious
elations, provision of adequate
d strengthening of monitoring
tions. He said that apart
iewing the progress of projects
mmissioning, the SEBs should
e advance action for projects
up in the subsequent years.

It was decided at the meeting that the State Governments would evolve a suitable machinery for objective selection of Chairman and Members of the State Electricity Boards to meet their functional requirements. Expert assistance of the Central Government will be taken wherever required. The selection will be based purely on merits and certain norms in this connection will be drawn and circulated to the States for adoption.

The meeting was informed that the supply of raw-materails, like cement and steel will be no constraint for power projects. The Central Electricity Authority (CEA) has already taken steps to ensure that raw materials are made available to the State Electricity Boards in time. The States were advised to send their requirements through the State Electricity Boards to the CEA who in turn will make bulk allotment of such materials.

Regarding supply of coal to power stations, Mr. Ramachandran, informed the meeting that availability of coal was no constraint and more than 14 million tonnes of coal was lying at the pitheads. He said that coordinated efforts to speed up the supply of wagons were being made to lift coal from the pitheads.

ECL to Increase Coal Production

In order to meet the growing demand of coal, the Eastern Coalfields Limited is taking up two projects with a targetted production of two million tonnes at a capital outlay of Rs. 388.8 million. These are Satgram (Reconstruction) and Parbelia (Reorganisation).

The demand for coal in respect of Eastern Coalfields Ltd. in 1982-83 has been assessed at 35 million tonnes. The production available from the existing and approved mines in that year is expected to be 28.21 million tonnes leaving a gap of 6.79 million tonnes. With a view to meeting this gap the company is taking up the following scheme :—

Project	*Existing Production*	*Target of Production*	*Capital Outlay*
	(m.t.)	(m.t.)	(Rs. in million)
Satgram (Reconstruction)	0.27	1.20	263.7
Parbelia (Reorganis tion)	0.40	0.80	152.1
		2.00	388.8

In the case of Satgram the proposal is to exploit the workable seams below the existing seams which are being worked out and will get exhausted in three to four years. These seams would be exploited by mechanised longwall method.

The proposal for Parbelia envisages deepening of two of the existing three seams to exploit the reserves of Sanctoria seam not only within the limits of this colliery but also of Seetalpur colliery which has a common boundary. The method of mining is proposed as longwall method with shearer and powered support.

Steam coal from these mines will be supplied to railways and general industries. Slack coal will be made available to thermal power plants, miscellaneous industries and brick-burning sector.

The demand on Singrauli coalfield of Central Coalfields Limited has been assessed at 13.14 million tonnes in

1982-83. The availability from existing and approved mines would be 10.20 million tonnes. With a view to reducing the gap of 2.94 million tonnes that year, it has been proposed to take up the expansion programme of Bina opencast project in Singarauli area, from the present level of 2.00 million tonnes per annum by 2.50 million tonnes. The coal will be mined by shovel dumper combination. Overburden will be removed by draglines. The supply of coal is linked to power stations in the North as also in the western region. The expansion programme is being taken up at a capital outlay of Rs. 569.1 million.

Better Process for Handloom Industry

Consistent with the priority given to handloom in the textile policy announcement, an integrated set of proposals has been submitted by the Sub-Group for Handlooms and Powerlooms to the Main Working Group on Textiles. This includes production of an additional 120 million kgs. of hand yarn, for which about one million new spindles will have to be established. Half of these will be in existing units and the other half in new units proposed to be set up.

This was stated by the Union Minister of Industry, Mr. George Fernandes, in reply to a question in the Lok Sabha recently.

As regards pre-weaving, post-weaving and processing facilities, the Minister said, a total sum of Rs. 40.6 million had so far been released by the Central Government to 12 States/Union Territories for the creation of such facilities in the last three years.

During the Sixth Plan period, the Minister added that the Sub-Group of the Main Working Group had proposed a Central outlay of Rs. 120 million for this purpose. It was envisaged that this amount would be matched by a sum of Rs. 150 million in the State sector for the same purpose. These facilities would be set up near handloom clusters to improve the quality and marketability of handloom cloth. The final report of the Main Working Group on Textiles was awaited, he said.

ITDC Profits Up

The profit of the India Tourism Development Corporation (ITDC) before tax is likely to be Rs. 25 million during 1978-79 as compared to Rs. 19.236 million during 1977-78. The profit after tax is expected to be Rs. 11.655 million as against Rs. 9.953 million during 1977-78. This is stated in the annual report of the Union Ministry of Tourism and Civil Aviation for the year 1978-79.

According to the report the turn over of the Corporation is expected to be Rs. 234.823 million during 1978-79 as against Rs. 219.531 million during 1977-78. The turn over of the Corporation up to November 30, 1978 increased to Rs. 136.9 million from Rs. 127.9 million during the corresponding period last year.

The report says that the operating profit of the Corporation upto November 30, 1978 had increased to Rs. 34.046 million as against Rs. 31.402 million during the same period last year.

ITDC commissioned a new three-Star hotel called Ashok Jaipur to offer a much needed budget-accommodation to visitors to the pink city of Jaipur. During 1978-79 the ITDC added two more airport restaurants, one at Trichirapalli and the other at Calcutta. The Corporation now consis hotels (including two beach rest 13 travellers lodges, three lodges, 14 restaurants (inclu airport restaurants), 16 transpor five duty-free shops and three and light shows.

ITDC is constructing 1250—bed Yatri Niwas hotel at New De an estimated cost of Rs. 30 milli

ITDC renders consultancy serv various State Governments as v foreign countries. The Governm Orissa has sought the assista the Corporation for preparati master plan for development of to in the State. The Corporation also been asked to render assi for preparing the master plan fo development of tourism in Liberi

Increased Production of Synthetic Yarn

The Government has taken ste augment indigenous production Methyl Terephthalate (DMT) Mono-Ethylene Glycol (MEG) a view to increasing the manufa of polyester staple fibre/polyester ment yarn. In reply to a questi Rajya Sabha recently, the U Minister of State for Coopera Mr. K. K. Goyal, said that in of polyester filament yarn was all towards the end of January, to fill the gap between dom demand and production and als maintain the prices of the fini products. He said that the ex level of Customs' duty provided le mate protection to indigenous ducers of polyester filament yarn.

Massive Dairy Developm Programme

Massive dairy development is envis under two centrally sponsored pr

d, one each for Himachal and Kerala States. A provision 200 million had been made dairy development schemes ifth Plan with priority being implementation of the projects n, Assam, Meghalaya, Jammu ashmir, Himachal Pradesh, and Kerala as these States ot covered under Operation

dairy project is estimated to 47.46 million and Himachal Rs. 21 million. The pattern ance will be similar to that ation Flood-II projects invol- percent grant and 70 percent he funds are being released the Indian Dairy Corporation.

projects are aimed at integ- iry development by increasing oduction in rural areas and its g in the urban areas of the These are expected to stimulate oduction involving small and l and landless agricultural s. The initiation of these will result in the optimum n of natural resources, l feeding, better breeding and management of the animals directly would make the rural conscious of applying the same es on themselves and their The process is also expected ve instrumental in bringing the desired socio-economic in rural masses particularly ll and marginal farmers and ural labourers.

e projects are expected to be nplemented in a period of ears.

erala Project will cover the of Trivandrum, Quillon and It envisages organisation of 425 primary milk producers' cooperative societies in the milk shed area of the project. The existing Trivandrum and Ernakulam dairy plants will be extended from the present installed capacity of 10,000 litres per day each to 30,000 litres of milk each day. In addition the State will have a feeder balancing dairy plant to process 100,000 litres of milk per day for manufacture of milk products, such as, milk powder, butter and ghee after meeting fluid milk requirement of Trivandrum and Ernakulam dairy plants. The State will also have a cattle feed factory desinged to manufacture 100 tonnes of cattle feed per day to make available concentrate cattle feed to the rural milk producers within the cooperative ambit in the project area. The project is expected to benefit financially about 150,000 producer families.

The Himachal Pradesh project will cover the districts of Simla, Mandi, Sirmur and Solan. It envisages establishment of 305 primary milk producers' cooperative societies in the project districts. On the milk processing side the existing Simla and Mandi Dairy Plants will be expanded to handle 20,000 litres milk per day each from the present installed capacity of 10,000 litres each. The project will have a cattle feed factory to manufacture 50 tonnes of cattle feed concentrates per day.

Science and Technology

India's Second Satellite

The Satellite for Earth Observations (SEO) will be launched in the second quarter of this year. The experimental flight of the Satellite Launch Vehicle (SLV-3) will also take place towards mid-1979. This has been revealed in the annual report for 1978-79 of the Department of Space. The report says that the launching date had to be rescheduled because of delays caused in the delivery of some critical high reliability components from abroad. The primary objective of the SEO project is to conduct earth observation experiments to obtain information on meteorology, hydrology and oceanography.

The two main programmes of the Department of Space—Space-based Communications and Remote Sensing-made considerable progress during the year. A notable event was the award of a contract to a US firm for the supply of two INSAT-I spacecraft and related ground equipment for spacecraft management. These spacecraft will be the world's first civilian operational geo-stationary spacecraft to combine telecommunications, direct TV broadcasting and meteorological services. For effective monitoring of the detailed progress of the work an office has been opened in Palo Alto, California. The Master Control Facility (MCF) will be established in the Hassan district of Karnataka.

MCF comprises two Satellite Control Earth Stations and Satellite Control Centre. While the equipment for the Satellite Control Centre is being procured from the spacecraft contractor, the rest of the MCF equipment and facilities are being provided by the Space Applications Centre.

The report says that the Indian Remote Sensing Satellite (IRS) will be built to meet the requirements of specific users in the Central and State Governments, and the needs of resource managers in various disciplines. Detailed exercises have been underway during the year to define the mission payload and weight class of the semi-

operational IRS to be orbited in the mid-eighties.

Another major project—Ariane Passenger Payload Experiment (APPLE) made considerable headway during the year. The structural model of the APPLE spacecraft successfully underwent a 'stack' test at the test facility in France. Fabrication, integration, qualification and design validation of the structure and the thermal configuration of the total spacecraft were completed. The APPLE Project envisages the development, launch and in-orbit operation of the 630 KG, three-axis body-stablised experimental geo-stationary communication satellite. The Project is a major step towards developing the communication transponder for future national communication satellites.

Besides the major on-going application satellites, SEO and APPLE, work has been in progress on Rohini Satellite-I, the 40 KG technology Satellite to be flown on SLV-3.

Satellite Telecommunications Experiments Project (STEP) for conducting TV and telecommunication experiments using the 'Sympboine' Satellite will be completed as planned in mid–1979. During the year experiments were conducted in the use of a satellite for remote area communication and two-way voice communication from disaster-stricken areas. STEP provided live telecast of many important occasions.

Indian Space Research Organisation (ISRO) is actively involved in the Monsoon Experiment (MONEX). MONEX involves intense observations of the upper atmosphere during two special observing periods this year ISRO's contribution to MONEX extends to the development and launch of suitably instrumented meteorological sounding rockets from Thumba, SHAR and Balasore and through the OMEGA Upsonde experiments. A two stage spinning rocket RH-200 has been developed at VSSC. All the facilities have been completed at the Balasore launch complex.

The OMEGA Upsonde system is being developed at SAC that can be carried and used aboard ships and which uses very low frequency signals from the US 'OMEGA' Station network.

Research and development has continued in launch vehicle technology and applications technology. These R&D activities are channelled into emerging areas concerned with Satellite based communications and remote sensing.

Low Cost Housing System Developed

Many systems and techniques for low cost housing have been developed at Central Building Research Institute (CBRI) at Roorkee to give impetus to the building of houses for economically weaker sections. Under the rural development programme many housing schemes have adopted the systems/ developed at the Institute. Since most of these schemes envisage the use of aided-self-help, the concept of construction in stages with durable support and roof in the form of skel ton is more suitable. The concrete skeleton system consists of precast pocket footings, hollow columns, beams and joints. This system was adopted for construction of 42 houses in Karimnagar district in Andhra Pradesh.

The Institute has developed a prefabricated panel system. It provides very economical and speedy system of construction. This system has been used by several Trusts and Corporations in Uttar Pradesh for bui houses for the weaker sections. Ha Avam Nirbal Varg Nigam in has also adopted this system for c ructing Harijan houses. In the phase 18,000 houses are propose be constructed.

A number of pre-fabricated ro and flooring units have been devel which lead to economy in cost a time. They consume less cemen steel as compared to the conventi slabs. One of the most econom units is the cellular unit. Each weighs only 80 kilograms enabl two men to handle it. An ove saving of about 15 percent in c is obtained as compared to traditio cost in reinforced concrete slabs. Th units have been used both in wa and floors of a pre-fabricated hous system and industrial housing sche at Ghaziabad. In Bhopal, Delhi an Ahmedabad these pre-fabricate roofing systems have been adopted i several large projects.

A speedy, cheap and effective meth has been developed of water proofi in village housing mud walls. consists of spraying a suitable mater prepared from asphalt and kerose oil which gets absorbed in the w and makes it waterproof. The proba life of the treatment is four to fi years and the cost of water-proofi and white washing is Re. 1.50 p sq. metre.

Another method has been develop ot render thatches fire retardant. I this treatment, all the thatch materi are first immersed overnight in chemical solution of diamonium ph phate and sodium flouride and th dried. The cost of the treatment roughly Rs. 5.50 per sq. metre. cheaper method of simply compress the thatch is under development.

Technology for Rice

ian Agricultural Research (IARI) at New Delhi has a simple rural-oriented, method for producing blue-te in bulk. The basic principle w them in natural sunlight nditions simulating those in fields as rice fields provide ditions for their growth and on. The IARI has developed bank of agriculturally useful blue-green algae from the ice fields. This forms part l India Co-ordinated Project sponsored by the Department e and Technology.

n algae belong to a primitive he evolutionary ladder and are gle celled or consist of bran-urbranched filaments. They uitous in their distribution, from snow to hot springs. ae are self-supporting systems ney obtain the energy required gen fixation directly through hesis. This confers an ecolo-vantage on these organisms. vidence strongly suggests that rged soils, biological nitrogen s essentially an algal process.

constitutes over 70 percent tmosphere. But plants and cannot use the atmospheric directly. Only a few micro-s are endowed with the to utilise this nitrogen. If ce could be tapped, the on petrochemicals for making can be substantially reduced. eriments have proved the feasibility of using these s in our crop production me as a self-generating source en.

the efficient nitrogen fixing l systems in the tropical rice fields involves certain species of blue-green algae which, contribute about 25-30 kg nitrogen per hectare per cropping season.

In India, the beneficial effect of algal inoculation on grain yield of many rice varieties has been demonstrated in work done at IARI and other institutions. The extensive field trials conducted by IARI in collaboration with the State Departments of Agriculture and other institutions show that 10-15 percent increase in the grain yield could be obtained through algal application in the absence of nitrogen fertilizers. This is of particular significance to the farmers who are not affluent enough to invest in nitrogenous fertilizer.

Algal technology has been introduced as a package of practices in Tamil Nadu and other States and farmers are interested in developing this input. Large scale algal production has been undertaken at Paddy Experiment Stations, State Seed Farms, village level Panchayat Unions and also be individual farmers. In some State Farms in Tamil Nadu, the threshing floor is being used for this purpose.

In areas where chemical nitrogen fertilizers are not used for various reasons, algal application can give to the farmers the benefit of applying 25-30 kg nitrogen per hectare. Secondly, where fertilizers are used, the doze can be reduced by about one third and supplemented by alage to get the same yield ; and thirdly even at high levels of nitrogen fertilizers, algal complementation provides useful organic substances like growth factors and vitamins, besides other ecological benefits.

The return of investment on this technology seems to be fairly high. In terms of nitrogen input an amount of 25 kg nitrogen per hectare will cost around Rs. 100. The algal material required for field inoculation (10 kg per hectare) to provide this amount of nitrogen will cost around Rs. 30, if the material is produced commercially. However, if the farmers produce their own material, the cost will be negligible.

In large number of trials where the recommended high levels of nitrogen fertilizer was complemented by algal application (10 kg per hectare) and average increase of about 300 kg was observed in the grain yield. This means an additional income of about Rs. 300 for an investment of Rs. 30 towards algal material. The cost-benefit ratio thus works out to 1:10.

Encouraging Trends in Industrial Production

According to the Economic Survey of the Government of India for 1978-79, in the first eight months of the current financial year, industrial production has shown a remarkable recovery and the rate of growth of industrial production for the whole year is estimated at about 8 percent. Industrial production had increased by 3.9 percent in 1977-78 due to a slow down in basic metals, transport equipment and electricity generation sectors. The recovery in the current year has taken place in almost all the major groups. In particular, electricity generation, food industries and textiles have contributed a great deal to this resurgence.

During April-December 1978, over-all industrial production is estimated to have increased by 7.5 percent as against 4.2 percent during the corresponding period last year. On current trends the industrial growth rate for 1978-79 is expected to be about 8 percent. This will be nearly double the growth

rate of 3.9 percent during 1977-78 and also substantially higher than the average of 4.8 percent for the period 1970-71 to 1977-78.

The rate of growth of industrial production for 1977-78 is estimated at 3.9 percent which was not unduly low in view of the fact that it was achieved on top of a 9.5 percent growth rate during 1976-77. Though the slow down in industrial growth in 1977-78 was general, the performance in chemicals, petroleum and coal products, machinery and electrical equipment was not unsatisfactory. In fact, the rate of growth in 1977-78 was higher, as compared to 1976-77, for petroleum products, food manufacturing, paper and paper products, non-electrical machinery and miscellaneous industries. Textiles, which account for a very large weight in the index, staged a small recovery after the decline in the previous year. However, a setback to production occurred in two groups, viz., basic metals and transport equipment. Aluminium, blister copper and pipes and tubes of iron and steel were adversely affected in the first group and commercial vehicles, cars and motor cycles in the latter group.

For the current year, the official index is available only for the first seven months, April-October 1978, during which the growth rate is put at 7.5 percent. Detailed data for major industry groups of the index show that electricity generation has recorded an increase of 13.1 percent. Impressive growth has also taken place in food manufacturing (+20.8 percent), beverages (+13.3 percent), non-electrical machinery (+13.2 percent), metal products except machinery (+12.5 percent), electrical machinery and rubber products (+10.0 percent each), paper and paper products (+7.2 percent) and chemicals and chemical products (+6.4 percent). Growth in textiles (+5.9 percent), which have a weight of 17.43 percent in the Index of Industrial Production is remarkable considering the relative sluggishness in the earlier years. The miscellaneous group, which includes a large number of industries but has a weight of only 1.70 percent, has registered a growth rate of 29.9 percent. The only important group which has continued to suffer a setback for the second year in succession is transport equipment.

Detailed production data for the period April-November 1978 compared to the corresponding period of 1977 show an unprecedented increase of 149.6 percent in the case of sugar because of the extension of the crushing season till June 1978. Output of baby food has gone up by 9.3 percent, biscuits by 6.5 percent, vanaspati by 21.5 percent and salt by 32.6 percent.

Among the basic metals and metal products industries, output of steel ingots and saleable steel in the main steel plants was lower by 6.0 percent and 5.7 percent respectively and that of pig iron by 1.9 percent. Output of blister copper fell by 18.0 percent. On the other hand, output of steel ingots in mini steel plants recorded an increase of 54.2 percent. Aluminium, zinc and lead also recorded significant increases of 19.3 percent, 49.6 percent and 42.4 percent respectively. Significant increases were also recorded by seamless steel pipes and tubes (+16.0 percent) and forged hand tools (+42.9 percent). Increases of 10-20 percent were recorded by structurals, aluminium extruded products, M.S. bolts and nuts and wire ropes. Steel castings, steel forgings, black an steel pipes and tubes, towers, C.I. spun pipes, brass sheets, cranes and recorded increases of le percent.

In the non-electrical mach output increases of mo percent have been record plant equipment, paper machinery, cement mill printing machinery, dies (vehicular), agricultural t earth moving equipment. and domestic refrigerato in this group. Items li rubber machinery, lifts, a compressors, ball and roll and machine tools have re increase in production of 10 Items severely affected are machinery (—24.6 percent) machines (—39.6 percent). the low production in the months of 1978-79 in the is largely due to a lock-out unit.

Under the electrical machin industries which have sho ction increases of 20 percen are winding wires, dry graphite electrodes. Power mers, electric lamps, fluores and radio receivers have well. Storage batteries an fans have suffered a decline which is attributable to unrest.

In textiles, recovery has bee led by cotton yarn (including yarn), with a growth rate, November 1978, of 8.4 perc cloth, however, shows a rise 2.2 percent. Jute manufactu also recorded an increase percent.

nsport equipment group a
nd has prevailed in the
months of 1978-79. Com-
ehicles (+35.6 percent),
es (+36.7 percent), jeeps
cent), mopeds and scooter-
2 percent), autorickshaws
cent) and bicyles (+17.1
ndicate a sharp recovery
gnation during the previous
ut of cars was only margi-
er. However, the wagon
ndustry (—13.9 percent)
to pull down the index
up as a whole. Production
is also below the level
r.

t other industrial items,
increases (20 percent or
utput have been registered
like leather cloth, scooter
or tyres, polyester filament
n tyre cord, malathion,
r, tooth paste, vitamin A,
phosphatic fertilizers, paints and varnishes, house service meters, clocks and wrist watches. On the minus side are a few items like leather and rubber footwear, newsprint, grinding wheels, chloramphenicol, polyesterene, synthetic rubber, sulpha drugs, caprolactum and azo dyes. In footwear, the decline was due to a strike in a major unit, now over. Lower production of grinding wheels was a reaction to over-production in the previous year.

On the power front, electricity generation during April-November, 1978 was 13.1 percent more than in the corresponding period of last year. This has brought down the gap between the demand and supply from 15 percent last year to less than 10 percent at present. Hydel generation has increased sharply by 30 percent; thermal generation during April-November 1978 was not so satisfactory with capacity utilisation actually declining this year. However, the increase in generation in November and December 1978 of the order of 4.1 and 6.2 percent respectively indicates that thermal generation is picking up on account of a conscious and concerted effort being made to maximise capacity utilisation in thermal units.

The outlook for industrial growth for the remaining part of the year is satisfactory. In the last three or four months, growth in industrial production has become more evenly distributed among different industries. Further, the effects of this year's floods on industrial production do not seem to have been as adverse or prolonged as feared earlier. This is proved by the increase of about 10 percent in industrial production in November, 1978 over November 1977. □

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Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1-9, 1979
Damascus International Fair, Damascus (Syria)	July 4-23, 1979
International Trade Fair, Maputo (Mozambique)	August 25-September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3-10, 1979
Algiers International Fair, Algiers (Algeria)	September 5-21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14-23, 1979.
Nairobi International Fair, Nairobi (Kenya)	September, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1-15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25-November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8-12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25-29, 1979
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November-December, 1979
Indian Exhibition, Manila (Phillipines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

Highlights

lised Imports to Continue
port policy for 1979-80 announced Union Commerce Minister, hhan Dharia, in the Parliament , covers further widening of the for grant of advance licences with emption benefits, continuation of em of issuing automatic licences import of raw materials and ents for export production, and n the import of scientific and ng instruments to protect domestic cturers. (Page 12)

Wins Another Iraqi Project
has another major success in ects field in Iraq with the award prestigious Council of Ministers valued at Rs. 325 million to the ring Projects India Limited, a nent of India public sector king.

lding, scheduled to be completed months, is the seventh project to India in 1979 and the total projects awarded to India so far now stands at Rs. 1,125 million.

(*Contd. on page* 2)

Export Performance and Potential

Economic Cooperation Between India and Senegal

India will participate in a wide range of projects which have been given priority by Senegal in her developmental programme.

A protocol to this effect was signed in New Delhi recently by Mr. Cheikh Hamidou Kane, Minister of Industry, Republic of Senegal and Mr. George Fernandes, Union Minister of Industry. The protocol incorporates a framework of industrial and economic cooperation which is oriented towards results and whose implementation will be time-bound.

The main areas identified for cooperation are manufacture of agricultural implements, agricultural pumps, light tractors, automotive spares; setting up of general engineering workshops, industrial estates, common facility centres, development of labour-intensive industries like electronics and textiles, fertilizers, manufacture of phosphoric acid from phosphates; development of handicarfts particularly those relating to marble, ivory, glass, wood, leather, basket weaving, cane and jewellery and also porcelain. Indian experiences would be availed of in the utilisation of raw materials for industries and training of artisans and craftsmen for rural, cottage and small scale industries.

The Senegal side desired to be appprised of the development in India regarding rural energy systems, utilisation of non-conventional sources of energy particularly solar energy and bio-gas.

Indian assistance will also be availed of in fields of food technology, fruits and grain processing, preservation, de-hydration ad canning industries.

Record Exchange Remittances in 1978
During 1978, foreign exchange remittances into India excluding export sale proceeds amounted to Rs. 22,187 million as against Rs. 19,083 million in 1977. The monthly average of these remittances during 1978 reached a record level of Rs. 1,849 million as against Rs. 1,590 million in 1977.

Export of Steel Bars and Rods Banned
After a review of the position regarding domestic demand and availability of bars and rods, the Union Ministry of Steel and Mines decided recently to ban forthwith all exports of semi-finished steel and bars and rods of all qualities and sizes. To meet the requirements of builders of small houses, it was also decided to make available to them construction round bar steel from main producers at stockyard prices.

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Industrial Growth and Diversification

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Science and Technology

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Import Policy, 1979-80 12

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Indian consultancy, supply of equipment and participation in civ struction have also been discussed in relation to large projects to be up in Senegal in the irrigation and hydro-electric sectors, and river development.

The programme of cooperation envisages participation of several and organisations in the private and public sectors- Hindustan Ma Tools, Handicrafts Board, National Small Industries Corporation, Trading Corporation, Minerals and Metals Trading Corporation, Central Food Technology Research Institute (CFTRI). Contacts been estabilised between Federation of Indian Chambers of Com and Industry and the Association of Indian Engineering Industry the Senegal Chamber of Commerce, and asistance will be provided India for market surveys to be taken up in Senegal.

Another important area identified in the context of Senegal's em position in the cine industry relates to the training facilities to be pro to Senegal personnel at the Film Institute in Pune and also expor Indian cine films to Senegal.

India has agreed to the deputation of experts covering several impo fields like biogas, soil chemistry, water management, breeding of gra livestock breeding, forestry, horticulture, canning and preservation tropical fruits, biochemistry, nutrition, storage structures and stor equipment and for setting up management training facilities in Sene Students from Senegal would also be trained in Indian Institutions pa cularly in those relating to agriculture, food technology and agricul engineering and for post-graduate courses in agricultural sciences engineering.

In follow up of these discussion, Seneglese Minister of Rural Develop and the Minister of Equipments also in charge of Irrigation and Tra port of Senegal will be visiting India shortly.

A team of Indian experts would also be visiting Senegal in the next months to follow up India's participation in the projects indicated in protocol. India shall participate in the International Trade Fair to held in Senegal in November-December 1980.

The Union Minister of Industry has been invited by the Senegal Mini of Industry to visit Senengal and the invitation has been accepted. Dur the visit, the Industry Minister will avail of the opportunity to review progress of implementation of the protocol and to give further direction strengthen the industrial and economic cooperation between the two coun The Senegal delegation arrived in India on April 23, 1979, and dur its 10-days stay and visited important projects in various parts of India also had detailed discussions with their management. The scientific industrial establishments visited by them included industrial estates, Pusa Agricultural Research Institute, the Santacruz Electronic Exp Processing Zone, the Central Water and Power Research Station in Pu the Tata Engineering and Locomotive Company Limited, Pune, Kirlos Cummins Limited, Pune, HMT Limited, Bangalore, the Central Fo Technology Research Institute, Mysore, Jessop and Company, Calcu the Bhakra Nangal Hydro Electric Project, the Agricultural Rese Projects at Hapur and Karnal and the factory of Eicher Tractors Faridabad.

gal delegation, which inclu-
level management of the
National Company for Assis-
Small and Medium scale
he Institute of Food Tech-
he Institute of Agricultural
, the Senegalese Chamber
erce, Electrical and Industrial
y, Senegalese Centre for
Trade, etc., had detailed
ns with representatives of the
ing Export Promotion Coun-
ssociation of Indian Engineering
and the Federation of India
rs of Commerce and Industry
purpose of encouraging joint
enterprises in Senegal.

ne had discussions also with
han Dharia, Union Minister
merce, Civil Supplies and
tion, Mr. Surjit Singh Barnala,
Minister of Agriculture and
n and Mr. Madhu Dandavate,
Railway Minister. Mr. Kane
the Prime Minister of India,
ured full support from India
programmes of industrial
ion agreed to by both the

as where Indian Railways
vide assistance to Senegal
Administration were briefly
d when Mr. Kane called on
ion Railway Minister, Prof.
Dandavate. The subjects
during the discussion included
sation and strengthening of
railway system in Senegal
struction of a 800-km long
line from Dakar towards the
region.

ane informed the Railway
that the Senegal Minister
e of Railways will be visiting
r further discussion in Novem-
year.

Welcoming the Senegal Minister, Prof. Dandavate said that India was willing to share expertise and equipment with Senegal. He also apprised the Minister that Indian Railways have wide experience in the construction of new lines, doublings, gauge conversions, electrification of railway lines, rehabilitation and rebuilding of bridges and modernisation of repair centres.

In this context, Prof. Dandavate mentioned that the Ministry of Railways have set up two public sector undertakings-Rail India Technical and Economic Services (RITES) and Indian Railway Construction Company (IRCON). While the former renders consultancy services in India and abroad in all fields of railway technology, the latter undertakes execution of railway projects of all types on turnkey basis.

During the past few years, RITES has to its credit successful completion of assignments in Bangladesh, Ghana, Iran, Malaysia, Nigeria, Sri Lanka and Syria, and has some important projects underway also in Philippines and Zaire. IRCON has also completed an assignment in Iran and tenders submitted by IRCON for certain projects are under active consideration of the Governments of Philippines, Algeria and Libya.

Indo-US Joint Commission Communique

The Fourth Session of the Indo-United States Joint Commission was held in Washington on April 24, 1979. The Indian delegation was led by Mr. Atal Behari Vajpayee, Union Minister of External Affairs and the United States delegation was led by Mr. Cyrus R. Vance, Secretary of State.

Recognizing that both Governments welcome collaborative efforts in the agricultural field and have already initiated Agricultural Programmes within the Joint Commission framework the Joint Commission directed that a Fourth Sub-commission—The Agricultural Sub-commission—be established in the year ahead. The Joint Commission felt that the establishment of an Agricultural sub-commission will help in promoting joint agricultural activities between the two counties.

The Joint Commission approved reports of its three Sub-commissions—Economic and Commercial, Education and Culture and Science and Technology—all of which met in 1978-79.

Noting that the joint discussions of bilateral trade, investment and international economic issues which have taken place have contributed to the understanding of the respective positions, the Joint Commission endorsed the Sub commission's plan to continue its wide ranging dialogue. The Joint Commission reviewed the activities of the Sub-commission's agricultural inputs and associated technology working group and commended the group's initative in expanding its scope to include broader agricultural economic policy issues in its discussions. The Joint Commission noted that the activities of the working group would provide effective support to the work of the new Agricultural Sub-commission.

It welcomed the establishment of the Sub-commission's industrial technology working group and endorsed the Group's agreement on guidelines for ongoing cooperation in this vital field.

It reviewed the activities of the India-US Business Council, which has served as a valuable adviser. The Joint Commission noted the continuing value of the frank and open discussions

of trade and investment issues of mutual concern which business and industrial leaders of both countries have conducted within the Council. The Joint Commission commended and endorsed the council's project on Indo-US commercial cooperation in the third countries.

The Joint Commission confirmed the continuing interest of both countries in intensifying their cooperation in scientific and technological research and received a report of the fourth meeting of the Sub-commission on Science and Technology which took place in New Delhi in November 1978. It noted with satisfaction activities already underway in agreed priority areas and approved the Sub-commission's suggestions for newer areas of collaboration within the field of agricultural sciences, energy, material science and electronics, natural resources, medical and health sciences and institutional exchange.

It noted with satisfaction the Grant Agreement signed by the United States and Indian Government in August 1978 under which the US Agency for International Development will provide two million dollars to fund the Sub-commission and other projects that stress operational research on projects of potential benefit to the Indian rural population.

The Joint Commission endorsed the Sub-commission's plans to establish approved guidelines and procedures and urged that Sub-commission redouble its efforts to reach agreement on other concrete projects in priority areas.

The Joint Commission endorsed the work in the agricultural research area carried out under the Sub-commission's auspices and noted that these activities would provide a useful base for the work of the new Agricultural Sub-commission.

Indian Firm Builds Highest Tower in Sri Lanka

An Indian firm, Engineering Construction Corporation Limited (ECC) has constructed Sri Lanka's highest civil structure, the 70-metre urea prill tower of the State Fertilizer Manufacturing Corporation of Sri Lanka (SFMC), located on the outskirts of Colombo. It forms the vital part of the large fertiliser complex being constructed on a 132-acre site at Sapugaskanda, 16 Km. from Colombo. The ammonia urea complex of SMFC will have a capacity of 550 tonnes per day of ammonia and 940 tonnes per day of urea. The annual production or urea will be 310,000 tonnes. The urea project will consume about 150,000 tonnes of naphtha and 100,000 tonnes of fuel oil supplied from the adjacent refinery of Ceylon Petroleum Corporation.

According to EEC, constructing prill towers of such a height is not new to them. But setting up one in Sri Lanka makes the tower a landmark for EEC. Besides, being the highest structure in Sri Lanka, the prill tower symbolises that country's determination to strengthen its industrial base and further improve its economy.

Sri Lanka's economy is heavily dependent on the export of tea, rubber and coconut. Under the typical import-export colonial pattern, the emphasis was placed on the production of the three basic export crops while all manufactured goods were to be imported. Thus, industry contributes only about one-eighth of the Gross National Production while the share of agriculture is little above one-third. The balance is contributed by construction, trade, transport and other services.

Sri Lanka's heavy dependen imported food stuffs underlin importance of boosting agricu production which calls for the ra inputs like fertilisers. The bu the fertilisers imported by the C Fertiliser Corporation went to the production of export orien plantation crops. This is the ratio of the ambitious fertiliser com now being constructed near Colo This need for the fertiliser p was identified and SFMC was es lished twelve years ago. But, per finalisation of financing arrangm (total cost $ 100 million and million in Sri Lanka rupees) project was dormant until three y ago. Once started, the SFMC aut rities were anxious to complete project with the shortest poss gestation period. It is in this con that world tenders were called a Kellogg Overseas Corporation w selected as prime contractor to project. ECC was awarded the spe civil contract for construction of 70-metre high urea prill tower a the design and construction of precast urea storage silo of 20.0 tonnes capacity.

The firm completed the project record time. It signed the contra valued at $ 1.27 million (8.27 milli Sri Lanka rupees) on November 1977. It provided 13 weeks for mob sation and 52 weeks to complete job. ECC mobilised the requisite liftin tackle and construction equipmen valued at over Rs. 6 million, fro India. This includes TATA P&H crane, tractors, trailers, concre mixers, dumpers, welding generato transformers, wood working machine gantries, vibrators, trestles, earth ram mers, jeeps, cars, minibuses, etc.

The 70-metre urea prill tower a diameter of 14 metres. The

, designed by ECC, has a
metres and length of 120
ie two structures required
int of materials including
es of cement, 5,500 cubic
ggregates, 900 cubic metres
4,300 cubic metres of sand,
of tor steel, 130,000 bricks,
of structural steel and
oic feet of timber. ECC's
ded 3,700 cubic metres of
, 3,600 tonnes of concreting
) square metres of shuttering.
job was to be completed
time schedule, ECC went
nsive precasting—160 trough
ie beams, 121 rib slabs and
eams.

bilisation included administ-
d technical personnel from
alling about 140. These
ngineers, carpenters, riggers,
rators, welders, fabricators,
rs, electricians, mechanics
ns. At peak periods, ECC
n the job some 800 Sri Lankan
The work went on round
in shifts, It may be noted
mbo has two rainy seasons
to July 15 and October
ember 30) and a total annual
infall of 100 in. ECC diligently
with the work even on a
recorded 16 in. of rainfall.

any fertiliser complexes in
CC adopted the slip-form
in constructing this 70-
h prill tower. The slip form
s completed in a record
just 25 days. The period
Bishak holidays and recorded
fall of 30in. In an ardent
mined attempt to continue
despite the rains, ECC used
n canopy over the slip-form

Substantial Increase in Spices Exports

According to the Spices Export Promotion Council, India's exports of spices and spice products amounted to 62,825 tonnes valued at Rs. 936 million during April-December 1978 (provisional figures) as against 42,240 tonnes valued at Rs. 852.3 million during the corresponding period of 1977 registering substantial increase both in terms of quantity and earnings. The export earnings achieved during April-December 1978 is an all–time record compared to the corresponding periods in previous years. There was a phenomenal increase in exports of Chillies during April-December 1978 to Rs. 233 million from Rs. 21 million during the comparable period of 1977. Exports of Ginger, Curry Powder, Fenugreek seed, Garlic, Cassia and Oils and Oleoresins of Spices have also contributed to the increase both in terms of quantity and earnings during the above period. However, exports of Pepper, Cardamom small and Tejpat have shown decline both in terms of quantity and earnings during April-December 1978 compared to April-December 1977. Exports of Coriander seed and Celery seed were higher in terms of quantity exported but less in terms of earnings during the period under review.

Exports of Spices and spice products during 1977-78 amounted to 73,597 tonnes valued at Rs. 1,400 million as against 60,956 tonnes valued at Rs. 760 million during 1976-77.

There was no remarkable change in the direction of trade. In respect of Pepper, USSR and other East European Countries, USA, Italy Canada etc. were the important buyers. In the case of Cardamom most of the shipments, though small, were to Middle East Countries. East Asia was the major importing zone for Chillies and for Ginger and Turmeric, Middle East ranked first.

West European countries accounted for the major share of Cury Powder exports from India. Exports of oils and Oleoresins (extractions) of spices were mainly to USA, West Germany, Australia, Canada, UK, France, Sweden and Japan.

Indo-Australian Trade

Australia has been India's most important trading partner in the East and South East Asia and Pacific Region after Japan. In the past, however, the balance of trade had been consistantly in favour of Australia, mainly on account of large scale imports of wheat from Australia into India. With the stoppage of wheat imports and simultaneous spurt in export from India of several items including nontradtional items like engineering goods, this trend was reversed in the Australian financial year ending June 1978 when total imports into Australia from India went upto A $ 89.65 million from A$ 70.50 million of the previous year and Australian exports to India came down to A$ 69.81 million from A$ 201.30 million. The year 1977-78 also showed a slight improvement in India's overall share of the Australian market from 0.7 percent to 0.8 percent. This is revealed in a commercial report of the Consulate General of India, Sydney.

Major items imported from India into Australia are textiles, garments, jute products, leather manufactures, tea, cashew nuts, engineering products, precious and semi-precious stones, coffee, shrimps, sports goods, footwear, castor oil and handicrafts. Major items exported from Australia to India presently are wool, minerals, tallow and some engineering products.

During the period July-December, 1978, India's exports to Australia amounted to A$ 41.824 million. Among the major export items were clothing (A$ 10.822 million), textile fabrics (A$ 9.648 million), leather and leather manufactures (A$ 4.495 million), jute and jute goods (A$ 4.669 million) precious and semi-precious stones (A$ 2.96 million), footwear (A$ 2.471 million), machinery (A$ 1.802 million), coffee (A$ 1.545 million), iron and steel (A$ 1.483 million) and sports goods (A$ 1.448 million). During the first half of the last financial year (July-December 1978) Australia's import from India reached A$ 51.82 million and if the pace of imports remains the same the total for full year may go above AS 100 million. It is noticed from the import statistics that imports of traditional items like tea, cashew nuts, and shrimps have gone down substantially. If India could have maintained the export of these items at the level of previous year, total imports from India into Australia would have recorded an increase of over 30 percent. The major items which are being imported from India into Australia are textile fabrics and garments which now account for almost 40 percent of total imports. The imports of coffee, leather and leather manufactures, precious and semi-precious stones, travel goods, footwear and sports goods, engineering products other than electrical machinery and appliances have shown improvement on previous year's figures and have better scope in the Australian market. Chemical products whose imports from India into Australia are very negligible, also have better scope provided appropriate efforts are made. Full awareness of Australian requirements and marketing characteristics and understanding of India's capabilities to supply high quality goods at competitive prices in accordance with prescribed specifications and time-schedule etc. are essential for further promotion of India's exports into Australia.

During the third Indo-Australian Joint Trade Committee meeting held in Canberra on November 27-29, 1978, various problems pertaining to bilateral trade and economic relations were discussed. The Indian side specifically drew attention on problems created by Australian Government's decision to withdraw developing country's preference on welded steel pipes and tubes and strict requirements of 100 percent cotton on handloom textiles particularly towels. The problem of handloom articles has now been resolved.

As in previous years, the Engineering Export Promotion Council of India, organised participation in Australia's International Engineering Exhibition, 1978 held in Sydney from September 11 to 16, 1978. India was one of the 13 foreign participants in this exhibition and a wide range of engineering goods including machine tools, hand tools, motor parts etc. were displayed by Indian firms. India's participation in this exhibition was very successful and it generated notable business in the field of engineering goods.

The following Trade delegations from India visited Australia during 1978 :—

(i) A four-member Market Study Team for Automobile Ancillaries sponsored by the Trade Development Authority of India visited from May 9 to June 20, 1978.

(ii) Two-member delegation sponsored by Marine Products Export Development Authority during the second week of July to discuss problems relat tion and future suppli and peeled shrimps t market, consequent o testing methods int the Australian Health

(iii) Director, Marine Ex lopment Authority Australia in July to market survey on of Indian marine p this region.

(iv) An 8-member Trade sponsored by the Indo- Trade Group of th Council of Foreign Tr Australia from Nove 24, 1978.

(v) A 4-member market s on consumer electron sored by Trade De Authority of India visi ralia from June 14 to

TDA Exploring Greek Market

The Trade Development (TDA) is to explore the Gree for cotton and silk read garments. Export potential f hosiery will also be studi decision follows TDA's quest f ring new markets which do quota restrictions.

With this in view, a contact pr programme has been underta TDA to establish trade conta Greek importers of fashion The programme will provide e to the Indian merchandise market.

A senior TDA officer who Athens recently will be joined industry representatives later month. The TDA officer will

or buyers and producers in Greece establish contact with trade and stry associations, importers, whole-s and distributors. Together, the member team will undertake a th-long study and collect data information on prices, marketing tices, possible modifications of gns, custom regulations and distri-on channels in Greece. The prog-me is aided by Commonwealth retariat.

ples of popular items and designs be procured for adaptation by ian exporters and manufacturers.

team will be assisted by a leading keting consultant in Greece.

uble Taxation Avoidance reements

ia has so far entered into bi-lateral eements with thirteen countries viding for avoidance of double tion arising from overlap of tax sdiction.

main object of negotiating double tion avoidance agreements is to ulate the flow of trade, capital, nology and personnel from one ntry to the other for accelerating nomic and industrial development to remove the tax obstacles that be inhibiting such flow. Apart n providing convenience to the stors as well as the tax administ-on, the double taxation avoidance eements are recognised medium fruitful international economic co-ration. Foreign investors are gene-y subjected to tax in the home ntry as also in the country of estment. The tax treaties endevour elieve the burden of double taxation ling from the overlap of the tax siction of the two countries.

The following are the countries with whom India has such agreements :

Austria, Belgium, Denmark, Federal Republic of Germany, Finland, France, Greece, Japan, Malaysia, Norwey, Sri Lanka, Sweden and United Arab Republic.

India has also limited bi-lateral agreements with ten other countries confined to aircraft and shipping profits.

Industrial Growth and Diversification

Substantial Rise in Electronics Production

The value of electronic goods produced in India rose to Rs. 5,905 million during 1978 from Rs. 5,085 million in 1977 representing an increase of 16 percent. Disclosing this, the annual report of the Department of Electronics, says components registered the maximum growth—29 percent, followd by consumer electronics (22 percent).

The production in the organised sector has increased to a level of about Rs. 713 million, showing a growth of more than 27 percent. Output of components in the small scale sector has grown by 23 percent covering components like TV deflection coils, TV tunners, and loudspeakers. Manufacture of these items was speically promoted in the small scale sector. This rise in the production of components resulted in a corresponding increase in the production of consumer products like TV receivers, radio receivers and tape recorders. The share of the small scale sector in the radio industry increased from 47 percent in 1977 to 57 percent in 1978.

The report says that the computing power in the country increased during this period with greater availability of access to larger systems. During the year, 31 computer systems (mostly mini) were cleared for import for applications in the nature of education, software, export, regional facilities, research and development, management of large operations, production planning and management.

Promotion of appropriate computerisation was taken up through Regional Computer Centres. The Regional Computer Centre, Calcutta located in Jadavpur University, is being used by more than 70 users. A second Regional Computer Centre is being set up at Chandigarh to meet the requirement of the States of Punjab, Haryana, Himachal Pradesh and the Union Territory of Chandigarh. An ACL-1904 S computer system is presently under commissioning at Pune.

The National Information Centre has made considerable progress towards its objective. Sixteen information systems have been/are being developed for various government ministries. The large maxicomputer is to the commissioned by October this year.

One of the important tasks performed during this year was the formulation of the Medium Term Plan for electronics for 1978-83. This was done by the Working Group on Electronics Industry set up by the Planning Commission.

The Working Group set up seven subgroups covering different areas of electronics. Profiles for the period 1978-83 in respect of production targets, investment required for public and private sector, foreign exchange and employment generation, have been evolved. The Working Group has

estimated production during 1978-83 at Rs. 43,680 million. Investments of Rs. 4,560 million and Rs. 705 million have been estimated for the public and private sectors respectively. The direct employment to be generated during 1978-83 has been estimated to be more than 0.3 million.

The Annual Plan of the Department of Electronics for 1979-80 envisages an outlay of Rs. 164 million. Of this, Rs. 145 million, has been reserved for ongoing projects so as to maximise the return from investments already made. The new schemes are mainly the new technology development projects to be initiated during 1979-80 under the R&D programme.

The Information, Planning and Analysis Group (IPAG), besides providing information to entrepreneurs on matter concerning techno-economic aspects has initiated work on the establishment of a computerised information system for electronics exports.

In the field of Defence electronics Department of Electronics has funded two major projects. One is Plan ADGES, which deals with the setting up of an integrated air defence system, and Plan AREN, which deals with setting up of radio engineering network for the Army. The R&D work supported at TIFR for the development of automatic data handling systems and automatic electronic telecommunication switching systems which are crucial elements in the Air Defence and Army Communication Network, respectively, are getting productionised. These, in addition to resulting in self-sufficiency and communication security in a strategic area, are also leading to sizeable volume of foreign exchange savings.

The Electronics Trade and Technology Development Corporation (ETTDC) has reached a turnover of Rs. 115 million during its fourth year of operation, as against Rs. 65 million of the previous year.

The Computer Maintenance Corporation (CMC) considerably built up the manpower and spares inventory to meet the situation arising from the ceasing of the operations of IBM with effect from June 1, 1978. The Corporation is now in a position to offer a complete package of services including installation, commissioning, maintenance, software and systems support to many different types of the latest and sophisticated computers.

The technology development projects funded by the Department of Electronics have made a significant impact in terms of diversifying the product range in the country, modernisation of techniques used for electronic development and production, capability of handling high technology. projects of interdisciplinary nature. During the year, 23 new projects have been initiated under the purview of TDC

The National Radar Council drew up plans relating to propagation studies, meteorological radar network for civilian and defence sectors, overall requirements for sonars and other underwater electronic systems.

The Depatment of Electronics has been interacting with the De artments of Space, Meteorology and Ministry of Communications to provide ground electronics for the satellite communication system and project MONEX.

Upward Production Trend in DSP

Durgapur Steel Plant (DSP) closed the financial year 1978-79 with the production of 9,45,533 tonne steel and 7,75,809 tonnes steel. According to the Pla performance could have b better but for the unpreceden in September last year and raints of inputs. The plant tered a total of 41 records i units during the year. For the Skelp Mill excelled in mance almost throughout and was able to establish tw annual records by producing tonnes and also through th despatch of 1,26,311 tonnes.

Despite floods and other DSP had to face during under review its achievemen cribed as rather unprecede its history. With a produc 61,506 tonnes in November Sinter Plant established an monthly record in the yea plant also was able to set up a despatch record by desp 1,60,504 tonnes from inside th

In the Wheel and Axle Pla despatch of 17,061 wheel sets the year was the highest since In the same area, the assem 14,257 wheel sets was the bes 1967-68. The Section Mill plant performed well in the through a production of 1 tonnes which was the highest 1965-66. In 1978-79 the plant a an all-time best in the despa secondary products and scrap Rs. 145 million approx. In the Mill, the utilisation of percent in the year was the since the inception of the The export despatches of DSP 1978-79 included Rounds tonnes), Billets (4,913 tonnes), sets (820 Nos.), and Mill Scale tonnes). The production of High steel items during the year wa

of 11,313 tonnes in the shape
ging quality Blooms (5,365
), Shell Blooms for sale (20
), Structurals (4,987 tonnes),
(571 tonnes) and lancing Tube
(570 tonnes).

arch 1979, the production perfor-
e of DSP showed an improvement
that of February 1979 in the
of Coal Washery, total Coke,
, Hot Metal, Saleable Pig Iron,
ers, Fish Plates, Finished Wheels
total Saleable Steel. The pro-
on figures of March, 1979, in
t of various categories of steel
as follows : Washery (Input
85,146 tonnes, total Coke
1,11,112 tonnes, Sinter 60,295
s, Hot Metal (Gross) 91,627
s, Pig Iron for sale 14,549
s, Ingot Steel (Rollable)
tonnes, Section Mill 14,040
s, Merchant Mill 12,451 tonnes,
r Plant 7,497 tonnes, Fish
Plant 350 tonnes, Finsihed
ls 3,548 (Nos.) and Saleable
65,050 tonnes.

kelp Mill established two day-
ction records of 691.98 tonnes
734.16 tonnes on March 18 and
h 19, respectively. The Skelp
also established a monthly des-
record with 16,379 tonnes and
ekly despatch record of 4242.33
s. The despatch of 1,598 wheel
in the month was the highest
in any month. Sinter consum-
of 61,295 tonnes in March 1979
he highest since inception.

el at Concessional Prices Engineering Exporters

a view to minimising the impact
he recent increase in steel prices,
Government has decided to supply
at concessional prices to enginee-
goods exporters.

Prices of pig iron and steel were raised with effect from April 7, 1979 by Government mainly with a view to augmenting the Steel Development Fund and to meet the higher cost of supply of specified imported categories of steel at pooled prices by the Steel Authority of India Ltd.

Government has, however, taken into account the need for protecting the interests of export manufacturers of engineering goods, who had already concluded contracts for execution. As on the previous occasion when prices were increased on June 5, 1978, contracts that had been concluded before April 7, 1979 and which do not contain an escalation clause and contracts secured as a result of tenders submitted to Public Authorities abroad before April 7, 1979, will be eligible for supply of pig iron and steel at a concessional price. This price will be only 10 percent higher than the prices prevailing before April 7, 1979. the facility will also be available to IBRD/IDA contracts in India which are deemed exports.

It may also be clarified that contracts which had been concluded before June 5, 1978 or contracts secured on the basis of tenders submitted to Public Authorities abroad before that date will continue to be eligible for supply of steel, if not completed by now, at the concessional price operative for such contracts.

Joint Plant Committee is issuing instructions separately to the Engineering Export Promotion Council to advise its Members to lodge copies of contacts secured before April 7, 1979 with the Joint Plant Committee in the same manner as was done earlier when prices had been increased with effect from June 5, 1978.

This measure of protection has been extended by Government with the objective of minimising the impact of increase in steel prices in so far as export manufacturers of engineering goods are concerned so as to enable them to fulfil their contractual commitments.

Indigenous Continuous Casting Machines Allowed

The question of allowing electric furnace units, licensed for production of steel ingots/billets, to instal Continuous Casting Machines, for improving their quality and yield of their products has been under consideration of the Government of India for some time.

The electric furnace units holding licences for the manufacture of steel ingots/billets may apply to Joint Secretary (Steel) with a copy to the Secretariat for Industrial Approvals (CRD Section), Department of Industrial Development for installation of continuous casting machines of indigenous make, subject to the following conditions :—

(i) that the capacity of such continuous casting machines that may be installed should be as closely matching as possible to its licensed capacity for ingots/billets.

(ii) that no additional investment is made by the applicant on land, buildings or plant and machinery except that which may be allowed for installation of the said continuous casting machine itself.

(iii) that no application shall be entertained for additional steel melting capacity or installation of rolling capacities on the ground that the above permission has been granted to the applicant for

a higher capacity concast machine.

Further, it is clarified that on no account installation of continuous casting machine with capacity in excess of the licensed capacity for ingots/billets would be permitted except in those cases where the minimum capacity of the continuous casting machine available in the country is higher than the capacity of ingots/billets licensed to the units. In the latter case, the applicant should give an assurance in his application that in the event of his being granted permission, he will not ask for additional melting or rolling capacity.

The applications should give details regarding the licensed capacity for ingots/billets, technical specifications of the continuous casting machine, capacity of the machine, the cost of the machine and also the total investment on account of the installation of the machine, etc.

Government to Ensure New DPCO Implementation

The Government has told various associations of drug manufacturers that the new drug pricing policy had been evolved in the light of Hathi Committee recommendations and after consultations and discussions and that the Government will ensure implementation of the Drugs (Prices Control) Order, (DPCO) 1979 which embodied the decisions of the Government. The associations included are Indian Drug Manufacturers Association, Indian Pharmaceuticals Manufacturers Association, Pharmaceutical and Allied Manufacturers and Distributors Association, All India Manufacturers Association and the Organisation of Pharmaecutical Producers of India.

It has been explained that para 19 of the Order stipulating furnishing of price lists to the concerned parties was meant to ensure that all coucerned had with them authorised price lists from manufacturers.
Such a list would reflect conformity with leader prices of categories I and II drugs in terms of provisions of para 12 of the Order. It would also set out revised prices of category IV formulations where the Order gave industry the freedom to modify prices. The list would also repeat the prevailing approved prices of category III formulations.

In case some more time was required for bringing out such lists due to local factors leading to problems of printing, the Government could agree to it provided, however, that the leader prices of categories I and II formulations were followed.

The Department of Chemicals and Fertilisers of the Union Ministry of Petroleum, Chemicals and Fertilisers has also addressed a communication to the public sector drug units urging them to give a lead in the implementation of the new Drugs (Prices Control) Order, 1979, especially in regard to the leader prices.

The DPCO, 1979 provides for leader prices for categories I and II formulations based on prices of efficient major manufacturers. The Order stipulates that the leader prices will be the ceiling for all manufacturers of such formulations, including those in the small scale sector.

Prices higher than the leader prices would have to be brought down to the leader level immediately. The prices lower than the leader prices will stay frozen and any revision will require Government's approval.

The Department's commun
the public sector drug ma
has stated that it was imp
give effect to the leader pri
diately in the larger public
even though these units ma
forego some of their earnings

The five public sector uni
facturing basic drugs and for
are Indian Drugs and Pharm
Ltd., Hindustan Antibiotics Lt
Stanistreet Pharmaceutical
Bengal Immunity Company
Bengal Chemical and Pharm
Works Ltd.

The Government communica
further emphasised that in
to following leader prices th
sector units should step up pr
of categories I and II medi
fill in the possible gap arising
any cut-back in production
private sector.

Industrial Developmen Andhra

Decision on the size, scope,
the project to manufacture el
watches in the country is e
to be taken by May 15 this
This was stated by Mr. Georg
nandes, Union Minister of In
at a meeting with Members of
ment from Andhra Pradesh in
Delhi, recently. Mr. Jagdambi
Yadav, Union Minister of St
Industry also attended the meeti

During the discussion, Members
lined the need for encouraging
based industries in the State as A
Pradesh had primarily an agric
economy and was rich in to
paddy, sugar and cotton. T
suggestion that a plant should
up for making ethanol from sug
for mixing with petrol, Mr. Fern

that he had already asked a r alcohal manufacturing unit to ıce, on trial basis, ethanol out ıolasses. Further action would ıd on the results. He also agreed : the National Textile Corporation ınsider setting up a largesize ing mill in Andhra Pradesh which ɔe related to the entire weaving ; of the State.

ılso assured the Members of his support to get the construction ıe Visakhapatnam steel plant lited and expressed the hope ground work for the plant would ı in the next two months.

ıt the grant of a licence to set conveyor belting unit, the Mem- were informed that clearnace ıe Foreign Investment Board was ted. Mr. Fernandes felt that ementation of the project would ɔose any problem.

ring to the progress of the District stries Programme, the Minister that despite some limitations State had made good progress. he 21 districts of Andhra Pradesh, had already been covered and ɔosals for the remaining districts ld be cleared as soon as those e received.

ing 1978-79 he said, the State given Rs. 7.85 million as grant of Rs. 9.625 million to which was entitled. Besides, Rs. 3.15 ion had been released as loan ance. According to the information ived from 11 DICs, 1,436 entre- heurs had been identified, 310 ect profiles prepared and 3,247 units providing employment to 7 persons set up.

Minister said that during 1978, Letters of Intent and 17 industrial licences were issued for the State. Of the licences, ten were for new undertakings, five for new articales and two for substantial expansion. Nine of these licences were for location of industries in backward areas. The licences related to electrical equipment, chemicals, drugs and pharmaceuticals, leather and leather goods, cement, food processing industry, etc.

Considerable progress, the Minister said, had also been made in the field of handicrafts. There were 14 carpet weaving training centres, directly run by the All India Handicrafts Board in Andhra Pradesh. Besides, there were two training centres in metal crafts at Urus and Pembarthy. The Board, he said, proposed to set up five additional training centres in carpet weaving, ten centres in hand printed textils, two centres in cane and bamboo craft, and one centre for art metal ware. To overcome the artisans' problems in procuring raw material and marketing finished products, a scheme of rural marketing and service centres at block level had been launched and the Board had sanctioned Rs. 81,000 for the setting up of such centres in Andhra Pradesh, Mr. Fernandes said. He added that Planning Commission had approved outlays of Rs. 0.5 million and Rs. 2 million for the years 1978-79 and 1979-80 respectively for development of handicrafts in the State.

Science and Technology

UAE Minister Impressed by Indian Technology Advance

The visiting UAE Minister for Petroleum and Mineral Resources, Dr. Mana Saeed Al-Otaiba, said in New Delhi recnetly that he was very much impressed by the technological progress of India. He expressed hope to make use of the Indian know-how in the development projects in his country.

The UAE delegation, which visited India on an invitation from the Union Minister for Petroleum, Chemicals and Fertilizers, Mr. H. N. Bahuguna, saw the Trombay unit of the Rashtriya Chemicals and Fertilisers Ltd. and also the Hindustan Petroleum Refinery in Chembur.

Later, Dr. Otaiba had discussions with the Chairman and Managing Director, Hindustan Petroleum Corporation Ltd., Mr. R. M. Bhandari and the Chairman and Managing Director, Rashtriya Chemicals and Fertilizers Ltd., Mr. Duleep Singh. He said, although both the countries happened to be in the developing stage only, India had quite a large number of things to offer, while UAE had only the crude oil to supply to India. He said, one of the primary objectives of his visit was to explore possibilites of training of people in UAE by the Indian experts.

High Strength Steel Developed

The National Metallurgical Laboratory at Jamshedpur has developed a high-strength low alloy steel known as MA 602. This steel possesses higher strength than conventional mild steel.

There will be considerable saving of steel through the use of lighter sections for the construction of ships, bridges, buildings, pipe lines, pressure vessels, transmission towers, containers, agricultural and earthmoving equipments. Use of this steel for the construction of wagons would increase their pay load.

The steel possesses good weldability and has a higher toughness than mild

steel. MA 602 is based on micro-alloying of low carbon steels.

Indigenous Turbine Supervisory System

The turbine supervisory system is a sophisticated electronic system used for monitoring the operating parameters of the steam turbine, such as eccentricity, expansion, differential expansion etc. It measures the various parameters, displays and records them. When any of the parameters go beyond the permissible limits, it alerts the operator by raising audio-visual alarms. If important parameters go beyond permissible limits, apart from giving the audio-visual alarm, it automatically trips the turbine so as to avoid a catastrophic failure. The reliability and accuracy of the equipment should be of a high order, to protect the turbine under all conditions of operation. The parameters equipment measures are : axial shift of the rotor ; differential expansion of the rotor ; overall thermal expansion of the turbine casing ; eccentricity or bow of the rotor shaft ; speed ; position of control valves and temperature at various parts of the turbine.

Bharat Heavy Electricals Limited (BHEL), the manufacturers of Steam Turbines have been importing the Turbine Supervisory equipment from the USSR, Czechoslovakia, Philips and Siemens for Steam Turbines of 100 MW, 110 MW and 120 MW. For the 210 MW Steam Turbines, BHEL preferred to have this equipment developed and manufactured indigeneously. The work involved was of a high order, considering the fact that the equipment had to meet stringent international standards such as that of American power industry and Central Electricity Generating Board (CEGB), UK.

The Turbine Supervisory System consists of the two main components namely Detectors and Measuring Units. Dectectors sense the various mechanical parameters and convert them into electrical quantities. These are vital components of the system. Reliability and accuracy of the system depend on these detectors. BHEL's Herdwar unit took up the development of these detectors in 1975-76. The various detectors required for the measurement were developed over a period of one year. They were tested on the turbines test bed in Hardwar. By this process detectors were developed to meet various international standards.

Meausring units are needed to process electrical output of the detectors and to convert them into standard signals for display and recording. Electronics Corporation of India Limited, Hyderabad (ECIL) was approached for developing the measuring units. ECIL, with their long experience in developing similar equipment completed the development work wihtin a matter of months. The technology that had been used in the equipment is on par with the international standards.

ECIL has been manufacturing the Turbine Supervisory System, thus developed. So far five sets have been put into service. Some of them are working in various thermal power stations satisfactorily for the past one year. Twenty five more units will be manufactured in the next two years to meet the demand of thermal power stations, being set up all over the country.

Technology For Utilising Agricultural Waste

Jute Technological Research Laboratories have developed the technology for utilisation of agricu materials such as jute stick banana stem and pineapp Pilot plants for its propag be required be exploit th on commercial lines.

Jute industry can utilise a items developed from wa by the Indian Council of Research (ICAR). These hard board, paper board paper out of jute stick and (ii) fabrics out of banan pineapple leaf fibre ; and and blankets out of cotto waste.

ICAR is taking steps t requisite infra-structural achieve the necessary produ

During the current Gold Year of the ICAR, the plans to take up meaning work on (i) up-grading village level ; (ii) traini growers in fibre grading ; (i ration of jute fibre ribbon and (iv) technical collabo the small scale private e on woollenised jute for b particle boards from jute st

Import Policy, 197

The salient features of Import Policy for April 197 1980, announced recently, marised below :—

Representations were made Users utilising the services for importing goods under General Licence (OGL) be allowed to make r towards the imported materi them. Accordingly, provisio made to allow, in the follo of cases, the Agents to o

dit and make remittances to suppliers on behalf of the Users concerned :—

gents importing goods for ientific or research laboratories, stitutions of higher education nd hospitals and Government epartments ;

gents importing goods for public ctor enterprises owned or cont-olled by Government ; and

xport houses acting on behalf f Actual Users.

e provisions have been made policy to ensure expeditious of clarifications to Actual Users g enquiries about import and policies and procedures. A e chapter on this has been orated in the Import Policy.

measure of procedural simplifi-the adherence by Actual Users ir approved phased programme nufacture will be monitored by irectorate General of Technical pment (DGTD) and other spon-authorities concerned through returns to be furnished to them e concerned Actual Users—and rough the licensing system.

t and Export (Control) Orders been suitably amended to put s made under OGL on par the other types of imports, for es of debarment and other actions and also to make whole-and Managing Directors as well rtners liable to penal action for ffences committed by the con-l company/firm.

itional arrangements have been in the Import Policy with regard ilisation of licences already in tion or new licences to be issued against previous claims, in order to achieve effective implementations of the new Import Policy. In such cases, restrictions have been imposed against the import of banned and canalised items.

A new and simpler system has been evolved for disposal of applications for REP licences received from Registered Exporters. Under this system, exporters applying for cash compensatory support under the Simplified Payment Scheme will be granted a Provisional Certificate of Exports, on the basis of which they would be able to apply later for a REP licence against the same set of exports, without having to submit another set of export documents requiring a recheck of the same documents as those submitted earlier.

The system of issuing automatic licences for import of raw materials. components and spares will continue as in 1978-79, but the additional 10 percent over the certified actual consumption either of the previous two years, on the basis of which the value of automatic licence is determined, will be available only to (i) small scale industrial units whose certified (annual) consumption was not more than Rs. 0.75 million ; and (ii) other industrial units which exported, in either of the previous two years, at least 5 percent of their annual production.

The system of issuing "repeat" licences to small scale industrial units will continue, as in the past period. However, if a small scale unit had been receiving more than one such licence in the past, it will be eligible to only one repeat licence in 1979-80; for its balance requirements, it could apply for a supplementary licence in the normal course.

The facilities provided in 1978-79 for utilising a part of an automatic licence for importing the banned items will continue.

An additional 10 percent of the value of an automatic licence will, as in the past period, be provided for the import of consumables required by the industrial undertaking, subject to the same restrictions as in 1978-79.

Units in the drugs and pharmaceuticals industry, manufacturing items for other "loan licences" under the Drugs and Pharmaceuticals Act, 1940 can apply for a supplementary licence or an allotment of canalised items required to fulfil such orders. The loan licences will not themselves be eligible to get Actual User licences or allotments of canalised items.

Only industrial units, which came into existence in 1979-80 will be treated as "New Units" under this Policy. Those, which were in production earlier, can apply for Supplementary Licences in case they are not eligible to get automatic licences.

It has also been provided that an Actual User who had begun production in an earlier period, but has no consumption of imported inputs on the basis of which to apply for an automatic licence, can apply for a supplementary licence straightaway.

The maximum value of licences to be recommended in the case of a new small scale unit would be Rs. 300,000 or Rs. 500,000 , as in the previous period, depending upon whether it is set up outside or inside a backward area or by a person eligible to special consideration.

However, (a) where an Actual User (Industrial) is granted a new industrial licence or Registration Certificate for the manufacture of a new end-product in the same undertaking, he may use

the automatic and supplementary licences already available to him to proceed with the new production, after taking the written approval of the sponsoring authority concerned. If his requirements cannot be met within the value of licences already held, he can apply for a supplementary licence in accordance with the prescribed procedure, (b) It is expected that new units depending on banned items of raw materials and components will not be encouraged. The sponsoring authorities will not recommend defectives/cuttings/scrap materials and banned items required for the manufacture of consumer goods. However, where a very limited import of any other banned item is considered essential even to begin with, the sponsoring authority may recommend such an item to a new/proposed unit for a value not exceeding 10 percent of the total value of the licence recommended; and within this limit, a single item will not de recommended for more than Rs. 50,000 in value.

Actual Users (Industrial) will continue to be eligible to import under OGL raw materials and components which are not banned, restricted or canalised.

Registered Exporters will continue to have the facility of getting import replenishment licences against exports, for the import of relevant banned or canalised items and packing materials. REP licences will also continue to be freely transferable, unless they are held by Export Houses and used for importing OGL items for Actual Users.

Reflecting the changes made in the banned, restricted and canalised items of raw materials and components, the materials covered by REP licences have been reviewed and appropriate changes made.

Face value restrictions would remain for some items in REP licences. However, for more economic ordering, packing, and freight considerations, the following facilities have been extended:

(a) Licence-holders will be permitted to import more in value/quantity upto 5 percent of the specified limit within the overall value of the licence; and

(b) Value restrictions on individual items will not apply in cases where the quarterly REP entitlement does not exceed Rs. 10,000 in value.

Direct import of canalised items against REP licences will now be allowed also in respect of shoddy wool/woollen rags. In the case of the canalised items appearing in Appendix 9, the facility of direct import by the Registered Exporter will be permissible only after prior approval by the Chief Controller of Imports and Exports, New Delhi.

Public sector undertakings and Government departments which were hitherto exempt from registration with the respective Export Promotion Councils. will hereafter be required to do so like private exporters.

In addition to the Jammu and Kashmir State, the Directors of Industries of Andman and Nicobar Islands, Arunachal Pradesh, Lakshadweep, Manipur, Mizoram, Nagaland, Tripura and Goa, Daman and Diu have been authorised to register all exporters other than gem and jewellery items.

The Duty Exemption Scheme has been made much more comprehensive than in the past, both in respect of the export products and the raw materials and components covered by it. The benefit of the Scheme can be availed of against any existing licence of an Actual User or Re Exporter, and also Imprest whether backed by an expor or without an export order. facility would enable all regular ters to maintain their export ramme using duty exempted ma continually.

Imprest Licences (without duty ption) will also be available fo export products, whether or not quality for import replenishmen Appendix 17, of the Import P Such licences will also be giv import of any items required export production whether they in Appendix 17 or not.

The policy pertaining to registra of export contracts for protectio REP benefits has been reviewed. protection will be available, as Cash Compenstory support meas only upto a specified period under :—

(*a*) Turnkey projects and expor specified Capital Goods.
Upto the completion of contract.

(*b*) Export of engineering goods o than Capital Goods referred in (*a*) above.
Upto 3 years from the dat the contract.

(*c*) Export of other goods not co by (*a*) & (*b*) above.
Upto one year from the of the contract.

Government has appointed a C mittee to review the role and work of Export Houses Scheme. The imp policy applicable to Export Ho will be framed by Government knowing its final recommendati Meanwhile, a few amendments been made in the policy. These

ts of products carrying
t replenishment rates of
than 50 percent will not
for the grant of Additional
es to eligible Export
rs.

alue limit of Rs. 200,000
em to be imported against
onal Licences may be raised
s. 500,000 by the Chief
oller of Imports and Ex-
in cases where the item
imported by an Export
is required for the manu-
e of the products exported
.

sification of exports will
nue to be one of the criteria
ne grant of Export House
ficates, but such diversifi-
could be within the same
ict group.

aluminium, natural rubber
t (including clinker) have
lised through public sector
A few items of chemicals
have also been added
alised list, both in Appendix
pendix 9. Import of cine-
ic films (exposed) *i.e.* feature
ow included in Appendix
their import, distribution
g will be decided by the
of Information and Broad-
per Government policy in
at regard.

o consideration the expected
of copper from M/s. Hindu-
er Ltd., a proper division
ries of Actual Users, as
his source of supply and the
naterial through the Minerals
tals Trading Corporation
as the canalising agency,
laid down.

of Capital Goods (CG) items allowed for import to Actual Users under OGL has been enlarged. Import of jigs, fixtures, moulds and press tools has been placed on OGL for Actual Users (Industrial).

The policy for import of precision instruments has been rationlised. A clear distinction has been drawn between scientific and measuring instruments and the other requirements of Actual Users (Industrial), namely, raw materials, components and tools. The Automatic Licences will not be valid for the import of such instruments. A few of them have been banned for import totally. Some others will be allowed upto a limited extent to Actual Users—equal to 1/2 percent of the value of Capital Goods installed or in use by them, subject to the further condition that not more than 10 numbers of each item would be allowed for import and their total value shall not exceed Rs. 200,000 in a year. Instruments which do not figure in the Banned or the Restricted List will be considered, on merits, on par with the policy for import of CG.

Actual Users (Industrial) who place orders on indigenous manufacturers of CG for at least 90 percent of their machinery requirements, will be allowed to import the remaining 10 percent (or less), subject to a maximum of Rs. 10 million in value, without an essentiality certificate of the sponsoring authority and without indigenous clearance, or the need for an advertisement. Import of banned items of CG will not, however, be allowed in these cases.

CG licences issued to major projects will be made valid for import of any item of CG not already covered by the licence, that is needed for its expeditions completion in the last phase, provided the import does not exceed 5 percent of the value of the licence subject to a maximum of Rs. 2.5 million, within the overall value of the licence. Under this facility too, banned items will not be permitted.

The procedure for import of CG against REP licences has been simplified. In such cases, permission to import Capital Goods will be given freely upto Rs. 1.5 million in value in each case, on the recommendation of the sponsoring authority concerned, subject to clearance by the DGTD.

The policy for import of spares has been liberalised in the interest of efficient production and proper maintenance of assets. Actual Users will continue to have the facility of importing under OGL, "Permissible" spares, *i.e.* those not appearing in the banned list.

Import of non-permissible spares has also been liberalised. Import of such spares will be allowed at two percent of the c.i.f. value of imported CG and 1 percent of the purchase price of indigenous CG in use by the applicant as on 1-4-1979.

Import of spares required for fulfilling warrantly obligations or rendering after-sales service has been liberalised. Such after-sales service could be free of cost or at a price; this has been clearly set down in the Policy. The standard of service rendered by Actual Users, availing of this facility, to the respective customers will be watched by Government.

Export houses will continue to have the facility of importing permissible spares against their Additional Licences. Besides, in order to meet the diversified requirements of various small users, individuals and institutions

alike of different types of imported equipment, mainly elctrical, electronic and instrumentation in nature, Export houses have been permitted to import spares of items falling under specific Headings appearing in the Schedule to the Imports (Control) Order, upto a maximum of Rs. 200,000 per Export house and within the value of their Additional Licences.

The facility for the grant of emergency licences for import of spares will continue. This facility will, as in the past period, be available to Actual Users (Non-Industrial) for import of emergency spares of a machinery which is intimately connected with the daily activities of the applicant.

The facility of import of spares of imported vehicles/tractors without licences, upto a limit of Rs. 2,500 a year per imported vehicle/tractor, will continue.

Import policy for samples has been considerably liberalised. In the case of Registered Exporters, the value limit upto which samples can be imported against REP licences has been raised from Rs. 10,000/- to Rs. 50,000/-. Similarly, the value limit upto which manufacturer-exporters can import samples, without a licence, by post or Air freight has been raised from Rs. 500/- to Rs. 5,000/-.

Imports of the following have also been placed under OGL :—

(*i*) Drugs and medicines supplied free of charge for clinical trails with the prior approval of the Drugs Controller (India).

(*ii*) Trade samples of drugs and medicines supplied free of charge to the sole agents in India up to Rs. 10,000/- in value, on the recommendation of the Drugs Controller (India) ;

(*iii*) Human vaccines and sera imported free of charge or on payment, on the recommendation of the Drugs Controller (India);

(*iv*) Animal including poultry vaccines imported free of charge or on payment, on the recommendation of the State Director of Animal Husbandry or the Animal Husbandry Commissioner to the Government of India ; and

(*v*) Technical and trade samples of insectcides (including pesticides and weedicides) supplied free of charge, with the approval of the Central Insecticides Board.

Various types of project exports have been identified for the first time in the Import Policy and appropriate administrative procedures set down. The procedures have been streamlined in consonance with the role already being performed in such cases by the Industrial Development Bank of India (IDBI).

Where imports from a third country into the 'project' country are made for executing an approved Project, no import licence will be separately required, in addition to the foreign exchange sanction given by the Reserve Bank of India. Equipment used in the execution of a project overseas, procured from outside India for that purpose,can be imported into India after completion of the project against Customs Clearance Permits which will be issued without calling for indigenous clearance. In the case of automobiles purchased for the execution of projects overseas also, guidelines have been laid down in consultation with the Reserve Bank of India, for their initial purcahse as well as their disposal overseas/import into India after the project is completed.

Where such a firm is itself not an Actual User (Industrial) but it has been awarded a contract for a complete project upto the stage of handing over the related CG to the project authority concerned, it may apply for the import of the requisite raw materials, components, consumables and CG. Similar facilities will also be available to an Actual User (Industrial) in the field of instrumentation who needs imported items other than those manufactured by himself, to execute the contract awarded to him. All such applications will be considered on the recommendation of the project authority concerned.

A somewhat more liberal import policy will be followed f
import of machinery pu
of foreign exchange savings
non-resident Indians wh
return home for settlemer
up an industry. In their
existing limit of Rs. 2.5
import of machinery wit
genous clearance would
single person. Hence, if tv
persons wish to come ba
up an enterprise jointly,
would apply to each on
separately. In appropri
Government may also rela
of Rs. 2.5 million eve
individual.

In the case of second-ha
CG, however, their import
allowed under the scheme
value of new machine of
the same type and speci
not more than Rs. 2.5 mill

More facilities than hithert
will be given to non-reside
who prefer to stay abroad
to invest in an enterprise
without the right of repa
capital or dividend. They
be allowed to import mach
raw material like those
returning home but with
rence that, in their case,
banned or second-hand g
not be permitted.

A provision has been ma
import policy for the firs
allow import of modern ca
photographic studios. Suc
holding a licence under t
& Establishments Act for
three years will be allowed
cameras of set specification
value not less than Rs. 2,00
Under this provision, only o
will be allowed for each su
User who has not imported
in the past five years.

The following items have be
to the list of items permitt
imported under OGL by a
for stock and sale :—

(*i*) Spares for such life savi
ment as are themselves
for import under OGL ;

(*ii*) Brass scrap and zinc/z
scrap ;

(*iii*) Lubricating Oils for
clocks and time-pieces.

(*iv*) Gum Arabic.

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economic and commercial news

...ws Highlights

...h Round of Tariff Negotiations ...oscd

...ressing the plenary session of ...CTAD-V in Manila recently, the ...on Commerce Minister, Mr. Mohan ...ria, has proposed a fresh round of ...f negotiations among developing ...tries. He assured the world com- ...ity of India's willingness to participate ...he basis of upto 50 percent tariff ...essions on selected products of interest ...leveloping countries, having a sub- ...tial trade coverage on a mutually ...ntageous basis. He suggested that ...erences would also have to be extended ...on-tariff sectors and new mechanisms ...sed for translating the improved ...ss into additional trade flows.

... Minister said that India at this ...ference sought to establish the frame- ...k within UNCTAD in which negotia- ...s might be conducted on the policies ... need to be adopted from time to time ...acilitate such positive adjustments ...re forces of protectionism gather ...ier momentum in developed coun- ...s. He also underlined the need to ...rm the world trading system.

(Contd. on page 2)

Export Performance and Potential

Sizeable USSR Contracts for Indian Woollen Knitwears

Contracts worth Rs. 311 million for export of woollen knitwears from India to the USSR were signed in New Delhi recently. The Soviet Union has been a traditional buyer of woollen knitwears from India since 1962. These purchases increased more than 10 times during the decade 1969-79 alone. The Indian woollen hosiery goods were widely represented at the Indian National Exhibition in Moscow in August 1978. In view of the increasing popularity commanded by the Indian knitwear products, V/O "Raznoexport" decided to raise the import of woollen knitwears from India.

It will be interesting to note that some knitwears will carry the symbol of the Olympic Games which will be held in Moscow in 1980.

The signing of the contracts was preceded by a good deal of work for final selection of the samples from the collections put up by the Indian firms at Ludhiana.

The main criterion of the selection of samples was the quality of products and their conformity with the modern standards and fashion.

India to Provide Foodgrains to Bangladesh

India has agreed to supply 50,000 tonnes of wheat and 150,000 tonnes of rice on a commodity loan basis to Bangladesh. The wheat is to be delivered during this month and rice during June and August. An agreement to this effect was signed at New Delhi recently by the Union Minister for Agriculture and Irrigation, Mr. Surjit Singh Barnala on behalf of India and Mr. Abdul Momen Khan, Food Minister of Bangladesh on behalf of his Government.

Record Exports of Gem and Jewellery

Acording to the latest figures compiled dy the Gem and Jewellery Export Promotion Council, India's exports of gem and jewellery items during the ten-month period, April 1978 to January 1979, reached an all-time high level of Rs. 5,007.3 million as compared with Rs. 3718.1 million for the corresponding period in 1977-78, registering a net increase of nearly 37 percent.

Big Increase in Bhilai Output

Bhilai Steel Plant recorded an increase of 34.6 percent in saleable steel production in April 1979 over the output in April 1978. The Plant produced 145,000 tonnes of saleable steel in April, 1979 as against the output of 107,700 tonnes in April 1978. This represents 116.9 percent fulfilment of the target, which was fixed at 124,000 tonnes. The Plant produced 172,000 tonnes of ingot steel, which represented 97 percent achievement of the target.

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The agreement is in pursuance of the request made by the Presid Bangladesh to the Prime Minister of India, Mr. Morarji Desai d latter's visit to Bangladesh in April this year and the Prime Minister ag to supply 200,000 tonnes of wheat and rice to Bangladesh to mee present difficult food situation in that country. Negotiations were in New Delhi in April-May, 1979 between the official delegations two countries resulting in the reaching of this agreement. Whea be delivered partly by rail and partly by sea, and the commodity is free of interest, repayable by the Government of Bangladesh wit period of 8 months after the completion of delivery. Delivery of ric be through sea and the commodity loan is for a period of 2 years a months from the date of completion of delivery.

Speaking on the occasion, the Minister for Agriculture and Irrig said that the signing of the agreement was only the latest among the merable examples of friendship, cooperation and understanding tha marked the relations from the beginning nearly a decade ago.

Mr. Barnala said that India had been fortunate in that self-sufficien foodgrains was no longer a mere wish or a dream. This was largel result of a happy combination of the valiant efforts of the farmers scientists, good weather and the policies pursued. It had enabled country to press forward with employment opportunities for its population through innovative schemes like food for work and for ra the per capita availability and the nutritional level of hitherto dep sections of its population.

He added that India was happy, to be able, in its own modest wa share with friendly countries who might suffer temporary setbacks agricultural production. He assured the Bangladesh Food Minister India would continue to do the maximum to strengthen the links alre existing between two countries and peoples and to share the fruits o experience with Bangladesh in the spheres of economic cooperation, sources management and industrial and agricultural develpment.

In his reply, the Bangladesh Food Minister, Mr. Abdul Momen K appreciated India's gesture in taking immediate action to implement commitment made by its Prime Minister, Mr. Morarji Desai during visit to Bangladesh last month. He said that he regarded the suppl foodgrains by India to Bangladesh as a timely assistance rather tha commercial deed. It was another bold and significant step towards fur strengthening the relations that already were very good. He expressed hope that these relations-economic, political and others, would fur grow. Referring to an achievement of self-sufficiency by Bangla as regards food production, Mr. Khan stated that he was hopeful tha country would also achieve food self-sufficiency soon, because between good neighbourly countries, he regarded the strength of one country to an asset to another.

Commerce Minister's Address at UNCTAD—V

The Union Commerce Minister, Mr. Mohan Dharia, has propose fresh round of tariff negotiations among developing countries. He assu the world community of India's willingness to participate on the bas up to 50 percent tariff concessions on selected products of interest to dev ping countries, having a substantial trade coverage on a matually ad

sis. He suggested that pre-
ould also have to be extended
f sectors and new mechanisms
r translating the improved
additional trade flows.

the plenary session of
-V in Manila recently, the
Minister expressed serious
ver the increase in pro-
measures adopted by the
countries, especially against
s of developing countries.
t the pursuit of such policies
bts about the very commit-
se pursing the establishment
itable economic order. He
t that the developing count-
tuted an important market
products of the developed
but their capacity for absor-
uld be severely eroded if
rt earnings were curtailed
rotectionist action. He found
prehensible that developed
should continue to persist
measures which not only
efforts of developing count-
prove the well-being of their
t also jeopardise their own
The only constructive app-
these problems adjustments
cept and adopt policies which
sitive adjustments, he added.

ister observed that India
onference sought to establish
work within UNCTAD in
otiations might be conducted
icies that need to be adopted
to time to facilitate such
djustments before forces of
ism gather further momen-
veloped countries. He said,
his is one of the key issues
is Conference and an area
we would hope to see concrete
of the requisite political

subject of vital concern to developing countries, he added, was the need to reform the world trading system. He referred to the multilateral trade negotiations but pointed out that there were glaring shortfalls particularly in the field of safeguards, quantitative restrictions and the nature and extent of tariff offers He suggested that one of the cardinal principles in the new trading system should be that no developed country should place the trade of a developing country at a disadvantage compared to the trade of another developed country. "We would consider the results of the multilateral trade negotiations as totally inadequate unless an objective and transparent safeguards system subject to strict surveillance emerged from these negotiations", the Minister added.

Deploring the recourse to ad hocism under the present international economic system, The Minister said that it was inconceivable that a meangingful progress could be made in creating a new international economic order aimed at bettering the lot of the developing countries without their active involvement in the process. He emphasised that India viewed the democratisation of the process of international decision making on all economic issues a central element of new international economic order.

Appreciating the agreement on the establishment of a common fund as a step forward, the Commerce Minister said that as a measure of her support, India would be willing to make a voluntary contribution to the Fund's second window. He said that India hoped that all developed countries would come forward with substantial contributions and trust that it would be possible to set it up by the end of this year.

Record Business by PEC

The public sector undertaking, Projects and Equipment Corporation of India Limited (PEC), a subsidiary of the State Trading Corporation of India Limited (STC), secured contracts for exports and imports worth Rs. 669 million during 1978-79, which is an all time high figure. Of this, the export contracts alone were worth Rs. 602 million.

During the course of the year, PEC made a major breakthrough in the US market for machine tools, fixtures, fittings as well as other light and medium engineering goods. During the year, the total orders booked from the US market by PEC's New York office were worth Rs. 33 million. It is likely that by the end of March, 1979 the total orders booked by its New York office would have reached a figure of Rs. 36 million. During the month of February, 1979 PEC introduced two new items, namely, Hot Dip Galvanised Trolleys and Hobby Shop Lathes, in the US market.

During February, contracts to the tune of Rs. 23.43 million were received. Important ones are for tension bars, etc. from USA valued at Rs. 7.5 million; transformers from Sri Lanka valued at Rs. 7.5 million etc. Besides the above, PEC also signed a contract for supply of fence items valued Rs. 9 million to USA. This contract was bagged during PEC's participation at the New Orleans Fence Show in USA.

Augmenting Exports to Australia

The Trade Development Authority (TDA) has undertaken a programme to augment the export to Australia of diesel engines and electrical equipment such as electrical motors, starters, relays and control panels.

Under this, a two-member team left recently for Australia to undertake a market survey of that country. The programme has been undertaken with assistance from the Australian Government.

The team, besides assessing the Australian market size for Indian products, will identify existing sources of supply, prices, duties and taxes. It will assess the market potential and identify buyers and their requirements. At the end of the survey, it will recommend to Indian manufacturers and exporters the effective distribution channels for their products.

An Action Plan will be submitted to the Government, trade and industry organisations for boosting the export of Indian products.

India and Syria Sign Air Agreement

An Agreement between the Government of India and the Government of Syrian Arab Republic relating to Air Services, was signed at New Delhi, recently. The Agreement provides for the operation of two services per week by the designated airlines of India and Syria on the specified routes.

Mr. Purushottam Kaushik, Union Minister for Tourism and Civil Aviation signed the agreement on behalf of India and Dr. Salim Yassin, Syrian Minister of Transport, who was on a state visit to India, signed on behalf of his Government.

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Syrian Arab Airlines commenced its first service to Delhi on May 3, 1966.

Both the Ministers expressed the hope that this agreement would further strengthen the bonds of friendship between the two countries.

Record Gem and Jewellery Exports

The gem and jewellery industry in India has registered phenomenal growth in exports over the years. From exports worth Rs. 100 million in 1966, when the Gem and Jewwellery Export Promotion Council was set up, exports last year crossed the Rs. 4,650 million mark—and these are still rising. According to latest figures compiled by the Council, exports for the period April 1978 to January 1979 reached an all-time high of Rs. 5,007.3 million as compared to Rs. 3,718.1 million during the corresponding period in 1977-78 registering a net increase of nearly 37 percent. Thus, during the first ten months of 1978-79 gem and jewellery exports have already crossed the target of Rs. 5,000 million which was set for the industry by the Government for the year 1978-79. In fact, for quite some years now,the gem and jewellery industry has been maintaining the trend of exceeding the export targets, as was the case last year.

As usual, the sector that contributed the most to the gains is the diamond sector whose exports soared from Rs. 3,469.4 million during April 1977 to January 1978 to Rs.4,712.9 million during April 1978 to January 1979 a net rise of more than 35 percent. The share of diamonds in total gem and jewellery exports is well over 95 percent. Other sectors to ses are precious/semi pre pearls, gold jewellery a stones.

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Gold Jewellery	45.331
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-Swiss Trade Trends

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(Value in million Swiss SFR)

	India's Exports	*India's Imports*
	86.7	139.7
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	196.8	165.4
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two-way trade between India
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Year	*Total Trade*	*Balance of Trade*
1974	226.4	—53.0
1975	223.3	—51.9
1976	415.5	+141.7
1977	362.2	+31.4
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It would be seen from the above table that India had an adverse balance of trade with Switzerland during 1974, 1975 and 1978 to the ture of SFR 53.1, SFR 51.9 and SFR 38.6 respectively. However, during 1976 and 1977 India had a favourable balance of trade to the extent of SFR 141.7 and SFR 31.4 respectively.

The major items of India's exports to Switzerland during January-December, 1978 were as follows :—

Item	*Value in thousands Swiss Francs*
1. Silver	48500.2
2. Refined Precious Stones	19435.5
3. Garments	19203.1
4. Knotted Carpets	13698.0
5. Opium	9508.0
6. Raw Coffee	9115.0
7. Dried Vegetables (Morels)	4131.2
8. Jewellery/Gold/Platinum	3189.7
9. Organic Chemicals	2593.8
10. Jute Fabrics	2025.1

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6. Precisous stones	3889.6
7. Plastics	3178.5
8. Misc. chemical products	2884.2
9. Synthetic organic dyestuffs	1408.2
10. Tools, implements	1186.8

Export Potential of Wooden Furniture

India's exports of wooden furniture have risen from Rs. 0.96 million in 1970-71 to Rs. 8.11 million in 1976-77. Till 1971-72, India's export of wooden furniture had remained very small. However, exports started increasing during 1972-73 (Rs. 1.56 million) and increased almost four times by 1974-75 (Rs. 5.1 million). While there was a decline during 1975-76 (Rs. 3.6 million), the exports of this item increased significantly during 1976-77 (Rs. 8.1 million.)

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The main buyers of Indian furniture are Muscat, Dubai and Qatar, UK, Kuwait, Abu Dhabi, Nepal and Baharein. During 1975-76, India's exports of furniture to these countries were ; Rs. 0.78 million (Muscat), Rs. 0.75 million (Dubai and Qatar), Rs. 0.64 million (UK), Rs. 0.44 million (Kuwait), Rs. 0.21 million (Abu Dhabi), Rs. 0.20 million (Nepal) and Rs. 0.13 million (Baharein). Among the developed countries, India's exports of furniture to UK appear to be

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quite significant ; in addition, export to West Germany, Sweden and Japan have also shown some increases. Export of furniture to the USA, however, declined from Rs. 0.16 million in 1974-75 to Rs. 0.06 million in 1975-76.

India can offer a wide range of furniture items for export. Wood craft in India is of very ancient origin ; but furniture—making as an industry is of recent origin in India. This is in spite of the fact that there are over 200 species of timber available in India and a significant advantage exists in terms of skilled craftsmen trained in the art of furniture making. The furniture industry in India largely consists of a vast number of small enterprises scattered all over the country or near the urban centres and a small number of large scale and modern units. The industry is generally in the small scale sector and basically labour-intensive in character. The industry generally caters to the individual tastes and needs of customers and very little efforts have been made to manufacture standardised furniture on a mass scale in anticipation of market demand. The use of mechanised equipment is not yet widespread in India which contrasts significantly with the status of the furniture industry in Europe.

India has rich forest resources and it is learnt that over 2,000 species of timber are available in India which can be used for various purposes such as construction, flooring furniture etc. An essential feature of the Indian industry is its use of solid timber whereas the use of plywoods, chipboards, lamination sheets and decorative veneers have assumed importance in foreign countries.

The data regarding compostion of output of the furniture industry are scanty. According to all-India Census Report on Small Scale Industry (1976), there are 744 units engaged in manufacturing wooden furniture and fixtures. Added to this, there are 44 units registered in the organised sectors manufacturing sawn wood, wood panel and miscellaneous items including furniture. The concentration of units is found more in States of Tamilnadu, Madhya Pradesh, Kerala, Maharashtra, West Bengal, Andhra Pradesh, Uttar Pradesh, Bihar and Gujarat.

Production data for wooden furniture are also not easily available since the industry consists of a large number of small enterprises scattered all over the country. According to the summary results of the latest Annual Survey of Industries, manufacture of wood and wood products, furniture and fixtures are estimated at Rs. 1622.7 million for 1976-77. However, for wooden furniture and fixtures the latest data available for organised sector is for the year 1969 from the Annual Survey of Industries when there were 60 factories with an output of Rs. 35 million. As regards the unorganised sector, all India Report on the Census of Small Industries (1976) put production at Rs. 215 million in 1972 against the capacity of Rs. 386 million. It is to be noted that the available data relating to either the small scale sector or the orgarised sector do not truly represent the available capacity or the exact production levels. This is primarily on account of the extremely scattered nature of the industry resulting in a sizeable volume and value of production remaining unaccounted for.

India has an abundant availability of various types of wood such as pine wood, CP teak wood, rosewood etc., which are quite formidable timber material for the manufacture furniture. Particularly CP is more abundantly avail it appears that furniture of this wood is fairly c Rose wood is used for costly An essential feature of t industry is its large use of sol as against this, the furnitur abroad makes use of other such as waterproof plywo boards, particle boards, resi laminated blockboards and veneers. Even though solid a principal raw material, abroad is minimised. The us rative laminated plastics an processes of surface finish lacquer-polishing, polyeste have also become wide-spre changes have also taken India but have been confine quality furniture. There manufacturers using parti for office furniture and use of veneer is also increasing. T very few units manufacturi furniture in India and he share of Indian wooden fur India's foreign trade in w wood products is quite s compared to the furniture in other countries, the use of n and equipment in the Indian is also very limited. There types of furniture namely and modern and (ii) orn periodic furniture. The ornate furniture is decorative requi use of costly timbers like ro and walnut. Even the use of m is not rare. India is in pos offer good types of decorative which combines oriental and o styles. The medieval Europea like the French and antique s other well known types are on a large scale in Indian

(Continued on

India's Exports of Principal Commodities

(Rs. in million)

	Commodities	1977-78	*April-September*		*Percent variations in April-September 1978 over April-September 1977*
			1977	1978 (*Prov.*)	
1.	Machinery including transport equipment	3,352.4	1,547.6	1,916.1	+ 23.8
2.	Metal manufactures	1,622.3	918.1	1,003.7	+ 9.3
3.	Chemicals and allied products	1,666.8	589.0	786.0	+ 33.5
4.	Cotton apparel	2,350.8	1,427.0	2,207.9	+ 54.7
5.	Jute manufactures	2,448.5	1,059.1	1,100.0	+ 3.9
6.	Leather and leather manufactures (incl. footwear)	2,722.0	1,340.6	1,436.0	+ 6.7
7.	Sugar	172.7	123.5	220.7	+ 78.7
8.	Gem and jewellery	5,598.9	2,021.1	2,590.6	+ 28.2
9.	Works of art	648.5	303.7	357.7	+ 17.8
10.	Carpets (handmade)	839.7	361.4	372.0	+ 2.9
11.	Silver	736.0	239.9	329.5	+ 37.4
12.	Wheat	441.5	0.3	403.8	—
13.	Tea	5,553.2	2,868.2	1,468.6	— 48.8
14.	Coffee	1,911.0	1,254.9	770.3	— 38.6
15.	Tobacco manufactures	1,132.1	871.3	391.8	— 55.0
16.	Cashew kernels	1,495.4	1,062.1	396.6	— 62.7
17.	Spices	1,370.2	488.0	371.4	— 23.9
18.	Oil cakes	1,332.7	952.3	236.7	— 75.1
19.	Iron ore	2,408.4	1,046.9	875.4	— 16.4
20.	Cotton fabrics	2,220.9	1,348.0	958.1	— 28.9
21.	Iron and steel	2,800.6	1,454.5	1,176.5	— 19.1

furniture. The latest styles resembling Scandinavian desings and the American styles are also being introduced.

Most of the raw materials used in the manufacture of wooden furniture are available within the country: yet for executing export orders, a few items such a hardware items like lacquers, thinner, hardner, etc. have to be imported depending on the requirements of the overseas importers.

Industrial Growth and Diversification

Record Output of Zinc and Lead

Output of aluminium showed an increase of 20 percent during 1978-79. Total production during the last financial year was about 215,000 tonnes, against 179,000 tonnes in 1977-78. The output of zinc and lead increased to record levels in 1978-79 with the completion of the zinc and lead smelter at Visakhapatnam in Andhra Pradesh. The production of zinc increased by about 55 percent compared to 1977-78 and of lead, by 48 percent. Giving this information on the output of some non-ferrous metals last year, the annual report of the Department of Mines for 1978-79 describes aluminium as the metal of the future and states that the development of this industry is being given all attention by the Government so that the country can attain a pre-eminent position in the world aluminium industry in the next decade.

The report says that while aluminium produced in 1978-79 was a new record, continued impostion of power cuts on aluminium smelters has inhibited aluminium production, necessitating imports to bridge the gap between demand and domestic supply. The demand for aluminium in 1978-79 has been estimated at 250,000 tonnes and arrivals against imports ordered added 33,000 tonnes to the supplies from the domestic production. The report mentions that aluminium is a power-intensive industry, requiring power in constant quantity round the clock. The imports could be minimised, if not altogether avoided, if adequate power to enable full utilisation of the existing capacity could be made available by the Electricity Boards. At the same time, to ensure that the constraints of power supply do not impede the progress of schemes in the power sector and production in other areas which need commercial grade aluminium, imports are planned this year.

While in the short-term, existing capacity might be adequate to meet demand if power were available, there is no doubt that in the context of the five to ten year projections (with demand for aluminium estimated to grow to 405,000 tonnes by 1983-84 and 595,000 tonnes by 1987-1988), large additional capacity will have to be created. The report explains that aluminium is the only non-ferrous metal in which India has a large installed capacity and extensive deposits and extensive deposits of ore. To exploit deposts of 1,628 million tonnes of bauxite recently discovered in the East Coast, encompassing Andhra Pradesh and Orissa, feasibility studies for the construction of a 600,000-800,000 tonne alumina and aluminium complex in Orissa and 600,000 tonne alumina plant in Andhra Pradesh, were entrusted to the Aluminium Pechiney of France and the USSR respectively. These are in an stage and are expected to be by May-June this year. Th ment decisions will be taken t in the course of the year. I studies have also been com on captive power plant of abou megawatts and the system portation, bulk handling a loading at the Vizag Port as a part of the investigations un to exploit the East Coast deposits.

A major scheme sanctioned was the Rs. 920 million Mala Copper Project in Madhya The country's first large siz cast mine in hard rock, Mala which is expected to go int mercial production in 1982-8 produce 2 million tonnes equivalent to about 23,000 to copper metal per year. It mentioned here that copper production during 1978-79 was tonnes, which also is the average at present. While prep work on the Malanjkhand proj started in July 1977, activi the project were restricted ov limited allocation of funds the first half of 1978-79. Ne funds were subsequently made able and Hindustan Copper L (HCL) was given clearance in N ber, 1978, to go ahead with the Steps were also initiated durin year to tackle the serious techno problems encountered by the and technical assistance was cl for this purpose from a leading Ja producer of copper. As a res the sustained efforts made b firm and the management, a sign breakthrough in the producti copper was achieved recently the levels of production at both K (Rajasthan) and Ghatsila (Biha

last three months having been highest since these projects were p. The cost of production of copper Khetri is, however, hgiher than Ghatsila and one of the reasons his is the unexpectedly low grade re in its captive mines. Its cost roduction can be reduced and in- capacity broght to a stage of r utilisation only by developing w mine. It is in this context also Malanjkhnad was sanctioned, since concentrates at Malanjkhand would ed to the smelter and refinery Khetri. Another component in the lopment strategy of copper is to e processes for recovering strategic valuable metals such as cobalt, bdenum and maximising the very of gold, silver and nickel. rotocol has also been signed with USSR for technical assistance in regard.

espect of lead and zinc, higher ts have been fixed for 1979-80, arget for zinc being 73,000 tonnes for lead, 15,000 tonnes. A project producing 6,400 tonnes of lead cost of Rs. 120 million at Sargipalli sanctioned during the year. The entrates produced here from the ipalli ore will be treated at the lters at Vizag in Andhra Pradesh at Tundoo in Bihar, which can xpanded at a very low cost. Feasi- y studies for such expansion have ady been commissioned. A scheme detailed exploration of Baroi Lead- deposit in Rajasthan was also tioned.

report states that the emphasis he coming year will increasingly n upgrading technology, including ased recovery of metals, and anced efficiency through installation balancing facilities wherever nece- and initiating R&D programme. rge number of R&D programmes of public sector undertakirgs under the Department of Mines and outside, like the Indian School of Mines and the Gujarat Mineral Development Corporation, were sanctioned under the Department's Science and Technology Plan last year. These include programmes relating to improvement in the quality of copper, augmented facilites for extractive metallurgy studies on Indian bauxite, and the setting up of a Geo-Data centre for mineral and earth sciences by the Geological Survey of India (GSI) at a cost of Rs. 25.255 million.

High priority is beirg given to exploration efforts by the Geological Survey of India for non-ferrous ores. The report mentions in this context that unlike steel, the prospects for expanding the production of non-ferrous metals, barring aluminium, would seem to be limited on the basis of the available geological data about the occurrence of these ores. The programme of systematic mapping of the country, is, therefore, beirg accelerated so that indications about potential resources of ore are available with a minimum loss of time.The GSI is also ventruing on a large scale into the field of aerial photography and remote sensing. Geothermal investigations continued in the Beas Valley geo-thermal fields of Himachal Pradesh, Sohna in Haryana and in the West coast of Maharsahtra. Besides glaciological investigations, regional exploration was continued of the continental shelf between Vengurla and Ratnagiri of West Coast and the work on ilmenite and other minerals from black sands off Ratnagiri and Konkan Coast.

Notable Increase in Bokaro Output

Output of ingot steel at Bokaro registered an increase of 28 percent last year. Bokaro Steel Plant produced about 1,195,000 tonnes of ingot steel in 1978-79, as against the ingot production of 933,000 tonnes in 1977-78.

Production of saleable steel increased by about 14.2 percent, having risen to 931,000 tonnes in 1978-79 from 815,000 tonnes during 1977-78.

Many production records were established when saleable steel registered a record increase, from 30,300 tonnes produced in March 1978 to 99,200 tonnes in March 1979. Bokaro's capacity utilisation was 96 percent in ingots and 88 percent in saleable steel.

Apart from the annual records in saleable, ingot steel and hot metal some special quality steels were developed at Bokaro during 1978-79, including the high-strength niobium bearing steel and rim stabilised, quality hard steel.

Indigenous Coke Oven Battery Commissioned

Metallurgical and Engineering Consultants (India) Limited (MECON), a public sector undertaking under the Union Ministry of Steel and Mines, has successfully designed and commissioned yet another indigenous coke oven battery which went into operation at Rourkela Steel Plant recently.

MECON, which has the distinction of being one of the seven organisations in the world to design and engineer coke oven batteires for steel completed the work in less than 21 months which is a record in India. This was possible because of the good team work between Rourkela Steel Plant (RSP), Hindustan Steelworks Construction Limited (HSCL) and MECON he three principal public sector

agencies who were engaged in the site activities.

The know how, design, engineering and supervision of heating up and commissioning of the battery was provided by MECON, and the construction and installation was undertaken departmentally by the HSCL. Overall coordination and procurement functions were the responsibilities of the Rourkela Steel Plant.

This represents another significant step in gaining technological self-reliance in the field of coke ovens, after the first MECON-designed coke oven battery which was commissioned in Durgapur Steel Plant in July 1977.

The 4.5 metre high battery has oven dimensions of 400 mm average width, 60 mm oven taper and 13.59 metre length. The ovens have special features which suit Indian climatic and operating conditions, such as triple point heat control and low chimney suction requirements. The battery will operate on normal carbonisation period of 16 hours with a guaranteed annual coal throughout of 331,000 tonnes and low heat consumption.

Raw Materials Supply to Steel Plants

Regulation of coke oven pushing in the steel plants and the resultant cut-back is a temporary meague to overcome the critical situation arising out of the very low stocks of coking coal and to build up stocks. This is intended to ensure adequate availability of inputs throughout the year so that the production plan of the public sector steel plants under the Steel Authority of India Limited (SAIL) for 1979-80, which envisages an increase of 17.7 percent in ingot steel and 15.35 percent in saleable steel, is not adversely affected.

Towards the end of the last financial year (1978-79) stocks of coking coal had dropped critically and the plants were operating at dangerously low levels of even pushings. The current financial year thus began with a low level of 137,500 tonnes of coal stock as against 449,200 tonnes in the beginning of the last financial year and as against the normal stock holding for safe working which is 500,000 tonnes. As sudden dislocations in coal supplies result in fluctuations in oven pushing rates in the steel plants, exposing sensitive refractory in brickwork of ovens to thermal shocks, it has been decided to have at least a minimum stock of 320,000 tonnes of coking coal and later build up the stock to a level of 500,000 tonnes. This has necessitated resorting to a temporary reduction of 8 percent in oven pushings so that the steel plants can plan uninterrupted normal operation as soon as the stocks go up to planned levels. This is essential to prevent any irreparable damage to coke ovens which may seriously affect production for a couple of years, if not longer. Sooner the stock level reaches required levels the better, since normalcy in oven pushing would also come sooner.

The Blast Furnances in the integrated steel plants are usually taken down for capital repairs and complete relining in the beginning of the year as per a specific schedule. Similarly annual planned overhaul of sintering plants is essential. During the current year, steel plants under SAIL have planned for capital reapris of Blast Furnances during April, May, June. It is, therefore, obvious that the consumption of major raw materials like iron ore, limestone would be lower till the capital repairs are completed. Thereafter, the production as consumption of raw materia normal as planned. SAIL and ments in the public sector st remain in constant and c touch with the concerned authorities and information aspects is exchanged in ac a routine. Raw material r despatch plan, etc. are also c cated in advance to all c agencies including Railways. if there is any drop in wagon and that too in some of th circuits' as a result of plann down in some of the unit integrated steel plants, it sh be considered as an unusual Further, such a situation has arisen in every closed circuit steel plant. Where the iron position is good as it has Bhilai, it may be so. But Bh also agreed to move iron c captive mines to other steel which require them. As such if movement is restricted in or circuit in view of the der other areas depending upon th tics, the wagons could be util movement to other steel plants.

It has been the established standing between steel plants Railways to build as much s possible of raw materials bef onset of monsoon. In view c factors, steel plants are keen to as much material as possible adequate stocks could be buil the onset of monsoon to ensure rrupted operation of the steel They are particulary anxious building up of stock of raw m like SMS limestone, which is over longer routes from the n Madhya Pradesh to the steel Even with annual shut-downs i furnances and sintering plants

ction of ingot steel and saleable would improve as soon as coal s improve, since at lower levels en pushing, availability of gaseous is a limiting factor.

lo-UK Seminar on wer Generation

Union Minister, Mr. P. Rama-dran, has emphasised the need interactions between electrical oment manufacturers and ators in order to make the equip- responsive to customers' needs also to ensure their speedy ope-n. Mr. Ramachandran was inau-ting the Indo-UK. Seminar on er Development Management at Delhi, recently. The Seminar been organised by the Central tricity Authority and the British tricity International of UK.

Ramachandran said that the er industry in India was the st public sector industry and grown at an average rate of 11 ent per annum over the last 25 s. He said that the growth, at in the next decade will be consi-ble and the addition to the installed city was likely to be of the order he transmission and distribution ork. There was thus need for ter attention to be paid to improve ation, training of personnel and mum utilisation of installed capa-The Minister said that it was natter of pride that the country the facilities for the manufacture most of the equipment including main generating plant required by er industry.

Ramachandran said that the nomenal growth, both in industrial well as agricultural sectors had d new dimensions in terms of responsibility and obligations on the part of managerial and supervisory personnel. He said that these personnel were now more and more required to imbibe newer concepts and management techniques.

Mr. Ramachandran informed the Seminar that the four Central Thermal Power Station Personnel Training Institutes at Neyveli, Durgapur, Delhi and Nagpur had been reorganised into an apex national body to fulfil the training requirements of the power sector by coordinating the training programmes of the various utilities and supplementing these with their own training activities. He said that these institutes had been set up to train personnel in the operation and maintenance of thermal power stations. He said that the apex body will provide flexibility of operation and give greater attention to the work of training.

RBI Accepts CUCB Recommendations

The Reserve Bank has generally accepted the recommendations made by the Committee on Urban Co-operative Banks (CUCB) on the future role, organisation operational aspects and professional management of urban banks. Besides taking necessary action, the Reserve Bank is addressing letters to the Government of India State Governments, National Cooperative Union of India and the National Federation of Urban Banks and Credit Societies commending the relevant recommendations made by the Committee for adotption and speedy implementation The Reserve Bank is, however, examining further the Committee's recommendations which involve amendments to the Reserve Bank of India Act and the Banking Regulation Act. The question of recognising urban banks as suitable agencies to deal in foreign exchange is also under examination.

A gist of the recommendations made by the Committee is given below :

The urban banks in general cater to the needs of small borrowers. They have also been able to mobilise substantial local resources, despite various limitations. There is need and scope for development of these banks, as they are eminently suitable for filling up the existing credit inadequacies, particularly in financing artisans, self-employed persons and cottage and small-scale industries at a comparatively lower cost of operation. With their close contact, local feel and involvement the urban banks can enjoy the confidence of local people. However, the development of urban banks cannot be taken in isolation, but should be viewed against the policies and structure of the banking system as a whole. The Reserve Bank should co-ordinate the development of commercial banks, regional rural banks and urban banks according to the needs of different areas.

Registration of new banks by Co-operative Departments and licensing by the Reserve Bank for commencing banking business should be complementary to each other. It should be ensured that the new banks have potential to become viable institutions within five years, that is, they should be able to build up loan business of at least Rs. 4 million in metropolitan centres with population exceeding one million, Rs. 3 million in urban centres with population of 0.1 million to one million and Rs. 1.5 million in semi-urban centres with population below 0.1 million. Accordingly, the minimum share capital to be collected by new urban banks should be Rs. 0.4 million

in metropolitan centres, Rs. 0.3 million in urban centres and Rs. 0.15 million in semi-urban centres. These norms are flexible when compared with the present norms of Rs. 0.3 million for urban centres and semi-urban centres and Rs. 0.5 million for metropolitan centres generally followed by the Reserve Bank for licensing.

There should be close co-ordination between registration of new urban banks by the Co-operative Departments and their licensing by the Reserve Bank. Before a bank is registered, a joint study should be made by the representatives of the concerned Co-operative Department, State co-opeartive bank, promoters and the Reserve Bank so that the process of licensing by the Reserve Bank is made quick and easy.

In view of the revised norms for registration and licensing recommended by the Committee, it would be ncecessary that the urban banks should maintain the real or exchangeable value of share capital and reserves at a level of not less than Rs. 1.4 million in metropolitan centres, Rs. 0.3 million in urban centres and Rs. 0.15 million in semi-urban centres for the purpose of section 11 of the Banking Regulation Act, 1949. The existing urban banks should reach the revised statutory level of share capital and reserves within a period of three years or such extended period not exceeding two years as may be fixed by the Reserve Bank. Those which are not likely to fulfil this condition should be persuaded to amalgamate with the neighbouring viable urban banks, failing which they may not be eligible for licence from the Reserve Bank to carry on banking business.

No primary credit society will be a provision in its by-laws to accept deposits from non-members. The existing primary credit socieites which accept deposits from the public should increase their share capital and reserves to the revised level suggested by the Committee within a period of four years or should refund non-member deposits and also delete the word 'bank', 'banker', or 'banking' from their name.

The salary earners' or employees' credit societies to be registered in future should not accept deposits from non-members, while the existing salary earners' or employees' credit socieites should go out of the purview of the Banking Regulation Act within a period of four years by refunding non-member deposits and also deleting the word 'bank', 'banker', or 'banking' from their name.

There is need for recruitment of adequately qualified staff at all levels and building up of professional management in urban banks. Effective arrangements should be made for the training of Staff. Besides, a common cadre system at the level of the Chief Executives may be introduced in some selected urban banks in states where there is concentration of urban banks.

It is necessary to extend certain facilities to urban banks in their efforts at deposit mobilisation and granting of credit facilities, especially to small-scale and cottage industries, artisans and small borrowers.

The urban banks should diversify their lending in favour of productive purposes, particularly to cottage and small-scale industries. The Industrial Development Bank of India may provide refinance and rediscounting facilities to selected urban banks either directly or through state co. banks.

It may not be necessary for th to set up a separate apex urban banks, as urged ir quarters. Instead, efforts s directing towards strengthe relationship of urban banks co-operative banks. The pr setting up of a seperate a for urban banks may be re a later stage, at least in state there is a sizeable number banks.

The Committee was appointe Governor of the Reserve September 1977. Besides the C (Mr. K. Madhava Das, Director, RBI), the Commit prised ten members drawn fror cooperative banks and coo societies.

All-time High Small Savings Collections

The net collections throug savings schemes touched an high in the financial year March 31, 1979. Disclosing Nagpur recently, Mr. Neep Talukdar, National Savings C sioner for India, said that ac to figures received so far, the t collections in 1978-79 would to Rs. 8,500 million. This is an i of nearly 42 percent over the e of Rs. 6,000 million. Gross col during the year are expected to Rs. 30,000 million.

The Commissioner said that th net collection through the small movement in 1977-78 was Rs. million. Thus in 1978-79, 54 p more collections were effected. A part of the collections came th long-term deposits like Time D

ounts and National Savings Certi-
tes (V issue).

total outstandings in national
ngs upto March 1979 comes to
ut Rs. 58,000 million and there
about 50 million participants who
ularly save through national savings
over the country. Uttar Pradesh
n about Rs. 1,200 million tops the
followed by Maharashtra (Rs.
50 million) and West Bengal (Rs.
00 million).

aller States did well in per capita
ngs based on net collections.
ndigarh tops the list with Rs. 96.76,
owed by Delhi with Rs. 95.57 and
with Rs. 30.44. Among larger
es, the per capita (net) savings in
t Bengal was Rs. 20.57, Mahara-
a Rs. 19.06 and Punjab Rs. 17.54.

Commissioner said the organisa-
was increasingly paying attention
each the rural masses and the
rganised sector. For this, non-
cial agencies like marketing societies
marketing committees were being
ointed as agents, so that they
ld collect the savings from agricul-
sts and cultivators of cash crops.
stance of other voluntary organisa-
s like opinion leaders, Panchayat
ities and cooperatives were also
g sought for this purpose.

pilot projects, certain blocks were
g selected in different States for
nsive savings compaign. In the
rganised sector, the National Savings
anisation was paying increasing
ntion to the self-employed class,
e earners, etc. for tapping their
ngs. Even though small savings
ections have sharply gone up, the
mmissioner said that schemes were
tantly under scrutiny and the
ernment appointed an Export Group
uggest changes in the existing
mes. A West German expert
also studied the matter in depth recently. Their reports were under examination.

Science and Technology

Advanced Calculator Developed by ECIL

The Electronics Corporation of India Limited (ECIL), a Government of India enterprise, has developed an advanced calculator, EC-75P, which is a programmable scientific calculator capable of serving the complex requirements of engineers, scientists and statisticians.

The versatility of a programmable calculator is determine by the various functions it can perform. The EC-75P has 10 independent memories and 72 steps programmable capacity. Like a computer it has a decision making capability, such as conditional and unconditional branching or looping.

The EC-75P has three modes of operation. In the Run Mode it works as an ordinary calculator and executes the programme that is loaded when R/S key is depressed. In the Load Mode the calculator is set for programme loading. The depression of every key is recorded/loaded in the calculator and is seen by the increment of the step number. Once the programme is loaded it can be checked and edited by using the BST key. In the clear Mode the slide switch can be set to erase a loaded programme by depressing the R/S key.

Any positive or negative number with an absolute value between 10-99 to 10—99 may be entered and displayed as a programme operand. Entries or results that fall outside the range of calculations are treated as overflow and underflow, entries. Any attempt to perform forbidden operations causes an immediate display of the error indication. Twelve green flurescent digits are used to display problem operands. Since pre-programmed keys are available for computation of statistical functions like standard - deviation, variance, regression co-efficients (slope, intercept), trend estimate (Y'X') its usefulness can be extended to the fields of regression analysis, correlation, analysis of variance; analysis of covariance etc. and may mathematical and financial applications.

P and T to Provide Data Transmission

The Posts and Telegraph (P&T) Department is engineering point to point data circuits to meet the demand of high speed data communication circuits. These facilities are at present used by Airlines, Defence and Research Institutions. Action has been initiated by the Department to assess the potential future demand for this facility so as to evolve a suitable public data network in the country. This was given in the annual report of the Department of Posts and Telegraphs for the year 1978-79.

During the period direct international telephone service has been extended to Iraq and Yugoslavia bringing the total number of such direct routes to 43 of which 35 are connected through satellite circuits. Switched telephone service is now available to another 159 countries. International telephone traffic is at present about 630,000 calls per annum, an increase of 15 percent.

The facility of semi-automatic access to more than 50 countries was extended to the trunk exchange at Ahmedabad in October 1978. This facility is already available to the trunk exchanges at Bombay, New Delhi, Madras, Calcutta, Bangalore, Hyderabad, Pun

Lucknow, Jullundur, Chandigarh and Ernakulam.

Direct telex service has been extended to Holland, Manila, Iraq and China and switched telex service to Guinea Bissan, Comoros and Tonga.

As a result of providing fully automatic subscriber dialling facility on International Telex calls from January 1978, the manually operated intelex calls have come down from about 0.9 million in 1977-78 to about 0.5 million in the period April-December, 1978.

ISI Workshop on Fishing Vessels

A high-level workshop of marine experts held at New Delhi, recently underlined the importance of standardization in making available seaworthy fishing vessels and called for evolution of standard designs to facilitate better supply of spares. Organized by the Indian Standards Institution (ISI) in collaboration with Ruston and Hornsby (I) Ltd, Pune, the Workshop suggested formulation of guidelines on acceptance tests and trials of fishing vessels. Among other areas suggested for standardization were, dimensions, fittings and raw materials pertaining to non-mechanized boats, propulsion - machinery and auxiliaries; deck machinery and equipment fish handling and preservation; and electrical items for use on fishing vessels. Indian standards already available in the field cover fishing gears and their accessories, and a guide for selection and testing of marine diesel engine for fishing fessels.

The Workshop wanted the various types of mechanised and country crafts and their components to be made strictly to the relevant specifications. In this connection the Mercantile Marine Department was urged to make use of Indian standards for the construction and maintenance of fishing vessels.

In view of scarcity of the right grade of raw materials in sufficient quantity, the Workshop suggested use of alternate materials, such as, fibregalss ferrocement and marine plywood sheathed with nylon fabric in place of timber.

Presiding, Mr. S. Parmanandhan, Director General, Naval Designs, Indian Navy, said that standardization was a vital instrument in cost reduction and called for adopting a systems approach to the solution of various problems faced by the fishing industry in regard to the construction and maintenance of vessels. He added that the need for standard materials had been felt for a long time and suggested that, in view of the shortage of timber, man-made synthetic fibres could be used as effective substitutes; in fact, fishing vessels could have partly laminated construction. In this context, he laid emphasis on research in the field of timber and lamination.

Earlier welcoming the participants, Mr. Y.S. Venkateswaran Additional Director General, ISI, said that the problems of fishing vessels were different from those of ocean-going ships. It was, therefore, essential that special attention was paid to the solution of problems faced by the fishing vessels industry. Though Indian standards did not generally go into designs aspects, it would be helpful if a consensus was arrived at in regard to incorporation of design features of fishing vessels in Indian standards as this would facilitate construction and efficient maintenance of vessels.

India to Host Intern Congress on Soil Sci

The twelfth Congress of the tional Society of Soil Scienc held in New Delhi from Febr 16, 1982. The Internatic Sciences Congress is normall four years interval. The last in Edmontan in Canada 1978.

The twelfth Congress has bee red by the Indian Society Science, Indian Agricultural Institute (ICAR), New D will be the first international to be held in Asia and is to draw about 2,000 delega India and abroad for particip its deliberations. The theme congress will be "Managing sources to meet the chall mankind". The programme congress will comprise session of commissions and commission, symposia, poster exhibitions and post-Congress t

In the plenary session, attent be focussed on the present sta future possibilities of optimisi prodction and land use in (i (ii) semi-arid and (iii) humid A panel discussion of ("Future Science" will have as its ob better understanding and utilisa soils for the benefit of mankind Symposia have been planne subjects including submerged ri organic manure in tropics an tropics with potentialities and tations.

The Indian Society of Soil Sc was founded in 1935 and has 800 members on its role. It pul bulletin covering important asp soil water and fertilizer. Mean research has been udertaken i

of soil research in India by
ltural Universities, Agricultural
tes under ICAR, traditional
sities and institutes with the
il of Scientific and Industrial
ch (CSIR), Central Water
ission, Institutes of Technology.
is having coordinated research
t on soil and water management
which multi-disciplinary and
location research is carried out
oordinated manner. There are
ch coordinated projects of soil
water management and about
cientists are working on these
ts. Fertilizer Corporation of
has one of the biggest network
ch laboratores in soil science
gricultural chemistry. Indian
Ltd. has recently established
Research Institute of India,
will be mainly engaged in
um research. The Indian Council
Agricultural Research has also
ed an Institute of Soil Research
is likely to be established during
xth Five-year Plan.

-US Projects on hquake Engineering

collaborative research projects in
rea of Earthquake Engineering
ne in the area of mitigation of
effect were formulated by
n and US scientists at a joint
US Workshop on Natural
er Earthquake and Wind Effect)
ation Research held in December
at New Delhi. The financial
ement of one of these projects
ed "Strong Motion Earthquake
mentation Array" is likely to be
ie order of $2.8 million and
6.6 million for a period of 10

information was given by the
n Minister of State for Science
Technology, Prof. Sher Singh in
Lok Sabha, recently.

The main purpose of the above scheme is to collect vitally important data required for proper understanding of the mechanism of earthquake and for evolving ralistic earthquake-resistant design of engineering structures.

The scheme is being examined in consultation with all concerned Departments.

The areas to be covered under the scheme of Strong Motion Instrumentation Array Project are Shillong and Dauki-Haflong Fauit Zone of North East-India's highly seismically active region.

It would be implemented as soon as all aspects of the scheme are satisfactorily resolved.

Training Farmers for Higher Production

Farmers' training and education has been further strengthened and broad-based to provided necessary support to the high yielding varieties programme. This will reduce the time lag between the research findings and its application in the field.

The Farmers' Training Programme is a Centrally Sponsored Programme operating in 150 districts at present. Each district plans its programme well in advance and also works out an urgent plan of action giving complete details of the activities to be carried out in the coming year involving the All India Radio Station in the process of dissemination of instructions. Some States like Andhra Pradesh provides a monthly/quarterly news about the radio programme with topics, dates and time ad name of speakers to enable farmers to take full advantage of the programme. Some Farmers' Training Centres (FTC) also serve as a focal point and fore-runner of attention to national priority programmes with emphasis on the training of small and marginal farmers. These training camps help in popularising soil testing, fertiliser promotion, use of DAP for pulses production, popularising of soyabean and bio-fertilisers.

In Tamil Nadu, the FTC are the institution that guide farmers in raising blue green algae and azoola with literature, newsletter, folders besides organising training course in its production, processing and utilisation. They concentrate on popularisation and expansion of areas and intensification of production of pulses in identified districts. About 150 training centres all over the country have been organised by the Government as focal points, eyes and ears of the Union Ministry of Agriculture in projecting priority activities at the field level.

The components of the training and education programme include Charcha Mandal, Peripatetic training, conducted tours, Kisan melas, national and other demonstrations, specialised training courses, Conveners' training, and a plan of action for the coming years. Radio and TV also play adequate part in the training process.

A Charcha Mandal (group discussion) is of a group of 20 to 30 farmers, who form the functional literacy class in a village. There are 300 such Mandals in each district covering both farmers and farm women assisted by a weekly radio programme organised by the Farm and Home Unit of the nearest station of the All India Radio. The Radio also answers questions put by farmers' discussion group arranged in respect of a broadcast on specified days and listened to by the discussion group. There are about 21,000 transistorised sets supplied to these Mandals under this

Lucknow, Jullundur, Chandigarh and Ernakulam.

Direct telex service has been extended to Holland, Manila, Iraq and China and switched telex service to Guinea Bissan, Comoros and Tonga.

As a result of providing fully automatic subscriber dialling facility on International Telex calls from January 1978, the manually operated intelex calls have come down from about 0.9 million in 1977-78 to about 0.5 million in the period April-December, 1978.

ISI Workshop on Fishing Vessels

A high-level workshop of marine experts held at New Delhi, recently underlined the importance of standardization in making available seaworthy fishing vessels and called for evolution of standard designs to facilitate better supply of spares. Organized by the Indian Standards Institution (ISI) in collaboration with Ruston and Hornsby (I) Ltd, Pune, the Workshop suggested formulation of guidelines on acceptance tests and trials of fishing vessels. Among other areas suggested for standardization were, dimensions, fittings and raw materials pertaining to non-mechanized boats, propulsion - machinery and auxiliaries; deck machinery and equipment fish handling and preservation; and electrical items for use on fishing vessels. Indian standards already available in the field cover fishing gears and their accessories, and a guide for selection and testing of marine diesel engine for fishing fessels.

The Workshop wanted the various types of mechanised and country crafts and their components to be made strictly to the relevant specifications. In this connection the Mercantile Marine Department was urged to make use of Indian standards for the construction and maintenance of fishing vessels.

In view of scarcity of the right grade of raw materials in sufficient quantity, the Workshop suggested use of alternate materials, such as, fibregalss ferrocement and marine plywood sheathed with nylon fabric in place of timber.

Presiding, Mr. S. Parmanandhan, Director General, Naval Designs, Indian Navy, said that standardization was a vital instrument in cost reduction and called for adopting a systems approach to the solution of various problems faced by the fishing industry in regard to the construction and maintenance of vessels. He added that the need for standard materials had been felt for a long time and suggested that, in view of the shortage of timber, man-made synthetic fibres could be used as effective substitutes; in fact, fishing vessels could have partly laminated construction. In this context, he laid emphasis on research in the field of timber and lamination.

Earlier welcoming the participants, Mr. Y.S. Venkateswaran Additional Director General, ISI, said that the problems of fishing vessels were different from those of ocean-going ships. It was, therefore, essential that special attention was paid to the solution of problems faced by the fishing vessels industry. Though Indian standards did not generally go into designs aspects, it would be helpful if a consensus was arrived at in regard to incorporation of design features of fishing vessels in Indian standards as this would facilitate construction and efficient maintenance of vessels.

India to Host Internatio Congress on Soil Science

The twelfth Congress of the Int tional Society of Soil Sciences wi held in New Delhi from February 16, 1982. The International Sciences Congress is normally he four years interval. The last was in Edmontan in Canada in 1978.

The twelfth Congress has been spo red by the Indian Society of Science, Indian Agricultural Resea Institute (ICAR), New Delhi. will be the first international cong to be held in Asia and is expec to draw about 2,000 delegates fr India and abroad for participation its deliberations. The theme for congress will be "Managing Soil sources to meet the challenge mankind". The programme of congress will comprise plen session of commissions and s commission, symposia, poster sessi exhibitions and post-Congress tours.

In the plenary session, attention w be focussed on the present status a future possibilities of optimising cr prodction and land use in (i) ar (ii) semi-arid and (iii) humid tropi A panel discussion of ("Future of S Science" will have as its objecti better understanding and utilisation soils for the benefit of mankind. Fo Symposia have been planned subjects including submerged rice so organic manure in tropics and su tropics with potentialities and lim tations.

The Indian Society of Soil Scienc was founded in 1935 and has abo 800 members on its role. It publish bulletin covering important aspect soil water and fertilizer. Meaning research has been udertaken in t

il research in India by
l Universities, Agricultural
nder ICAR, traditional
and institutes with the
Scientific and Industrial
(CSIR), Central Water
ı, Institutes of Technology.
aving coordinated research
soil and water management
ch multi-disciplinary and
ion research is carried out
inated manner. There are
ordinated projects of soil
management and about
sts are working on these
Fertilizer Corporation of
one of the biggest network
aboratores in soil science
ultural chemistry. Indian
I. has recently established
search Institute of India,
l be mainly engaged in
esearch. The Indian Council
ultural Research has also
n Institute of Soil Research
kely to be established during
Five-year Plan.

Projects on
ıake Engineering

aborative research projects in
of Earthquake Engineering
n the area of mitigation of
ct were formulated by
ıd US scientists at a joint
Workshop on Natural
Earthquake and Wind Effect)
ı Research held in December
New Delhi. The financial
nt of one of these projects
'Strong Motion Earthquake
ıtation Array" is likely to be
rder of $2.8 million and
million for a period of 10

rmation was given by the
linister of State for Science
nology, Prof. Sher Singh in
Lok Sabha, recently.

The main purpose of the above scheme is to collect vitally important data required for proper understanding of the mechanism of earthquake and for evolving ralistic earthquake-resistant design of engineering structures.

The scheme is being examined in consultation with all concerned Departments.

The areas to be covered under the scheme of Strong Motion Instrumentation Array Project are Shillong and Dauki-Haflong Fauit Zone of North East-India's highly seismically active region.

It would be implemented as soon as all aspects of the scheme are satisfactorily resolved.

Training Farmers for Higher Production

Farmers' training and education has been further strengthened and broad-based to provided necessary support to the high yielding varieties programme. This will reduce the time lag between the research findings and its application in the field.

The Farmers' Training Programme is a Centrally Sponsored Programme operating in 150 districts at present. Each district plans its programme well in advance and also works out an urgent plan of action giving complete details of the activities to be carried out in the coming year involving the All India Radio Station in the process of dissemination of instructions. Some States like Andhra Pradesh provides a monthly/quarterly news about the radio programme with topics, dates and time ad name of speakers to enable farmers to take full advantage of the programme. Some Farmers' Training Centres (FTC) also serve as a focal point and fore-runner of attention to national priority programmes with emphasis on the training of small and marginal farmers. These training camps help in popularising soil testing, fertiliser promotion, use of DAP for pulses production, popularising of soyabean and bio-fertilisers.

In Tamil Nadu, the FTC are the institution that guide farmers in raising blue green algae and azoola with literature, newsletter, folders besides organising training course in its production, processing and utilisation. They concentrate on popularisation and expansion of areas and intensification of production of pulses in identified districts. About 150 training centres all over the country have been organised by the Government as focal points, eyes and ears of the Union Ministry of Agriculture in projecting priority activities at the field level.

The components of the training and education programme include Charcha Mandal, Peripatetic training, conducted tours, Kisan melas, national and other demonstrations, specialised training courses, Conveners' training, and a plan of action for the coming years. Radio and TV also play adequate part in the training process.

A Charcha Mandal (group discussion) is of a group of 20 to 30 farmers, who form the functional literacy class in a village. There are 300 such Mandals in each district covering both farmers and farm women assisted by a weekly radio programme organised by the Farm and Home Unit of the nearest station of the All India Radio. The Radio also answers questions put by farmers' discussion group arranged in respect of a broadcast on specified days and listened to by the discussion group. There are about 21,000 transistorised sets supplied to these Mandals under this

programme at half the market price. These Mandals are also supplied monthly newsletters, folders and leaflets. A successul Charcha Mandal in Tamil Nadu District Trinulveli employs a mechanic who vists 150 farmers for serving their electric motors, pumpsets and maintenance of the machinery. It also employs a part time worker for renting power sprayers and dusters, besides selling pesticides and fungicides. It is a self-supporting unit which sets example for other Mandals.

Under the Peripatetic training, the training Centre moves to the village for training of the farmers. One hundred such camps have been organised in selected villages on the farmers fields. The trainees include both men and women, and get training in storage, rat control, use of pesticides for treating seed and foodgrains, use of soyabean in different forms. About 5,000 to 7,500 farmers and farm women are trained under this programme in a district each year.

Conducted tours of farmers are arranged for visit to successful demonstrations both national and others, research stations and successful farmers fields. The trip enables the participants to establish a linkage between the research and the field bringing all concerned-the farmers, extension worker and subject matter specialist together. About 100 to 120 farmers participate in such conducted tours a year. In some States, the Gram Panchayats meet a part of the expenditure.

Kisan Melas are organised once in a year or once in each crop season. These are usually organised by the Farmers' Training Centre or the nearest Agricultural Universty or College.

Under the national and other demonstrations, 25 national demonstrations were laid out by four Subject Matter Specialists of the ICAR in each district and all the important activities were carried out under their guidance. The farmers within the walking or cycling distance are invited to attend such demonstrations. The training duration is from three to five days and each centre selects its won subject and crop or livestock for demonstration. In the case of farm women activities relating to their interest are selected such as livestock management, storage, pest, harvest technology, field preparations and utilisation. The programme serves as a good linkage between the National Demonstration and Farmer's Training programme. and 250 farmers and many farm women are trained normally in each district for five days. Additional courses for farmers are arranged in areas covered by various rural deveopment programmes such as SFDA, MFAL and in such districts the number of farmers participating in such specialised training programmes is even more. Specialised training in specific fields is imparted to step up productivity per hectare.

Five courses per area covering 125 conveners are organised in each district on the techniques and methodology of organising groups to provide leadership, sustain interest of the farmers through organising demonstrations, maintain record of the group discussions and providing services to the farmers.

An effective coordination rious levels in respect of th programmes has been devel are district coordination with Deputy Commissioner as Chairman, and the Sta ordination Committee unc manship of Agricultural C Secretary Agriculture. Fa representatives of the agriculture and allied radio, panchayats and are also members of mittees. At the national le the national level coordir mittee under the chairma Additional Secretary, De Agricultre.

The functioning of various varies from district to dist an average abbut 12,000 fa advantage of training and programme with active sup India Radio and of the literacy units of the M Education. So far 150,00 courses have been organise over 4.3 million farmers women. There is an in-built system to monitor and assess of training.

Eighty two out of 84 A. I. R in the county broadcast rura mes including that of agrcu 49 of these stations have sp of Farm and Home Unit ea by a trained agricultural grad Farm Radio Officer to cater cial requirements of the farm ing centre. Twenty of these out school on the A. I. R. programmes of interest to th on specialised subjects is pre

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economic and commercial news

ews Highlights

ırp Rise in Heavy Industry Units ports

ring 1978-79, the public sector units ler the Department of Heavy In- try registered a phenomenal increase 132 percent in their export perfor- nce. The total exports of these units ing the year amounted to Rs. 2,398.4 lion as against Rs. 1,033.4 million ing 1977-78.

lo-ECA Agreement

lia and Economic Commission for ica (ECA) initialled an Agreement in w Delhi, recently, covering grants made the Government of India to the ited Nations for the use of ECA. The reement is valid for a period of three rs and provides for grants by the vernment of India totalling upto Rs. million. It will be finally signed in dis Ababa sometime in October this r.

(Page 2)

ke in India's Exports to British lumbia

lia's exports to British Columbia were her at C$8,608,510 during January- cember, 1978 as against C$6,205,418 ring the corresponding period of 1977, istering an increase of C$2,403,092,

(Contd. on page 2)

Export Performance and Potential

Higher Exports During 1978-79

Exports including re-exports during April 1978-March 1979 are provisionally estimated to have registered a 5.5 percent increase over the corresponding figure for the previous year.

The provisional export figures for 1978-79 are estimated at Rs. 55,440 million as against 52,550 million in 1977-78. The provisional figure for April 1978- March 1979, in fact, has already exceeded by a substantial margin even the revised figure for 1977-78.

The percentage of 5.5 even exceeds the rate of increase of exports in 1977-78 over 1976-77 which was 5 percent.

The increase in exports in 1978-79 has been achieved in spite of several adverse international and domestic factors. The international factors affecting the country's exports included decline in the growth rate of overall import demand in the developed countries, intensified protective measures against export products of developing countries like India, sharp decline in commodity prices e.g. tea, coffee etc., instability in foreign exchange markets including the major international currencies and decline in rupee-dollar ratio. Adverse developments in domestic economy affecting exports included increased bottlenecks in the supply of non-tradeables, growing pull of domestic demand, lingering strikes in the major ports like Bombay and Calcutta and jute strike.

To ensure secure base for India's exports, Government had initiated, during the year, various measures that would strengthen export production,

according to a commercial report of the Consulate General of India, Vancouver.

Committee on Tax Concessions

The Government of India has appointed an expert committee of economists and tax administrators to study the impact of concessions provided in the tax laws. The Committee would study especially those concessions which relate to corporation tax and central excise and their impact on the techniques of production used in industry and make recommendations for reform in order to encourage the adoption of labour intensive methods of production.

Policy for Electronic Watches

According to the industrial and technological policy for the electronic watch industry, presented in the Lok Sabha recently, all electronic watches made for the domestic market will be marketed and serviced by the public sector undertaking, Hindustan Machine Tools, at least for the first five years.

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encourage capacity expansion in export-oriented industries, augm... bargaining power of the Indian exporting community, encourage ex... of Indian products in the new markets of both developed and develop... countries and improve the country's inherent competitive strength thro... imparting greater relative price stability to Indian economy. One of most important features of Government's measures had been to provid... stable policy framework so that available uncertain ties were remo... and exporters were encouraged to take a long term view about internati... marketing. Another noteworthy aspect of these measures had been to ma... exports promotion truly a inational effort by involving various agencie... Central Government, financial institutions, public sector organisati... State Governments and other national agencies engaged in different ty... of economic activities. Task forces were constituted to look into the p... blems of dynamic export sectors like leather and leather products, gems a... jewellery, handicrafts, electronics, project exports, furniture, agricult... products, export services and exports from smallscale sector to dra... programmes for action groups. A new thrust increasing production a... export of different product was given to export of agricultural produ... as well.

During April 1978-March 1979, India's imports are provisionally estim... at Rs. 66,062.7 million as against Rs. 58,324.9 million during t... corresponding period last year, marking an increase of nearly 1... percent. However, the revised import figures for 1977-78 are estimated ... Rs. 60,252.9 million.

India and ECA Initial Agreement

A Basic Agreement covering grants made by the Government of India ... the United Nations for the use of the Economic Commission for Afri... (ECA) was initialled in New Delhi recently.

The Agreement which is valid for a period of three years and provides ... grants by the Government of India totalling upto Rs. 5 millon was initial... by Mr. Adebayo Adedeji, Executive Secretary of the Economic Commissi... for Africa, on behalf of the United Nations, and Mr. C.R. Krishnaswam... Rao Saheb, Commerce Secretary, on behalf of the Government ... India. The Agreement will be finally signed in Addis Ababa sometime ... October 1979.

The Basic Agreement will provide a framework for India's cooperation, ... collaboration with the Economic Commission for Africa, with the Afric... countries in their effort to accelerate economic and social progress. T... purpose of the Agreement is to lay down the basic provisions which w... apply to future grants made by the Government of India for the develo... ment of the African continent through the Economic Commission ... Africa.

India is the first developing country with which the Economic Commissi... for Africa has signed such an Agreement. The Basic Agreement will provi... a new window for India cooperation with African countries. It will supp... ment India's present bilateral cooperation with many of these countr... and assist in forging new links of cooperation with them. It will also prov... a basis for continuing dialogue with the Economic Commission for Afr... which will assist India in identifying further areas and scope ... cooperation.

alling this Agreement, given a concrete and nsive institutional shape mitment undertaken at the tions Conference on Techni- eration among Developing held in Buenos Aires to take atives and adopt additional for promoting technical co- among developing countires. immense complementarities he Indian economy and those ican countries. India's deve- experience and particularly ical and technological capa- e eminently suited to the previaling in Africa because valence of similar socio-eco- ation and, in many respects, factor endowments. The cted for carrying out acti- er the grants to be provided e framework of the Basic t include: transfer, adapt- development of technology, non-conventional sources , with particular reference energy; industrial designs, easibility studies, plant and t; agro-industries and small- ustries; transport and com- n; integrated rural develop- jects; institutional infra- and management services.

ll be widened and diversified ence is gained in mutual co- . It is hoped that the modest that has been made by the the Basic Agreement on the n of the visit to New Delhi xecutive Secretary of ECA velop into collaboration with an countries through the ECA h wider basis and scale.

lgerian Railway ration

randum of Understanding on erian Co-operation in the field ays was signed in New Delhi by the Secretary Gener al Ministry of Transport, Government of Algeria, Mr. Smail Kerdjudj. and the Chairman, Indian Railway Board, Mr. K. S. Rajan.

Taking into account the experience, the know-how and the capabilities of India, the following areas have been identified in the field of Railway technology under the Agreement:

(i) Carry out feasibility studies and construction of an underground urban line, to form part of the future railway network of the suburb of Algiers (Tafourah/ Bab Eloued line).

(ii) Assistance in the setting up and the functioning of an organisation for achieving modernisation of operations of the exitting network including extension of loop lines, remodelling of marshalling yards construction of special sidings, etc. and

(iii) Assistance in the setting up and operation of a cell for investigations of Soil Mechanics and Geotechnique problems including stability of embankments and the foundations of brdiges.

India has agreed to give Algeria within the framework of the proposed Indo-Algerian Railway Co-operation Agreement, technical assistance in the form of providing to the Algerian National Railways, highly qualified personnel, particularly in the field of railway operation and management, signalling and maintenance of track.

India will assist Algeria in conducting a system study for increasing the capacity of the single line sections of the Algerian Railway network on the lines of the methodology adopted on Indian Railways. Besides, various other relevant documents, literature and technical and economic study reports shall be exchanged between India and Algeria.

Algeria shall invite bids from the conceerned Indian Railway Companies in matters relating to execution of the infrastructure works and procurement of railway equipment and materials and process them in accordance with the procedure for finalising international contracts.

The finalisation of an Indo-Algerian Co-operation Agreement in the filed of Railways which will determine the modalities of implementations of the operations mentioned above will be effected during the next meeting of the two parties at Algeria at a date to be mutually agreed upon by the two parties.

The Algerian Delegation also met Prof. Madhu Dandavate, Union Minister for Railways, and officials of Indian Railways, Rail India Technical & Economic Services Limited and Indian Railway Construction Company Limited under the control of the Ministry of Railways.

Welcoming the delegation, the Railway Minister said that India was willing to share expertise and information with Algeria. He mentioned that the Ministry of Railways has set up two public sector undertakings—Rail India Technical and Economic Services and Indian Railways Construction Company. While the former renders consultancy services in India and abroad in all fields of railway technology, the latter undertakes execution of railway projects of all types on turnkey basis.

Earlier, the Algerian delegation visited Research, Designs and Standards Organization, Lucknow, Metropolitan Transport Project at Calcutta and Route Relay Interlocking Cabin at Churchgate Bombay.

Trade between India and Netherlands

According to an economic and commercial report of the Embassy of India, the Hague, the year 1978 saw a continued and impressive increase in exports from India which was achiev-

ed despite EEC quotas and adverse market developments. By October 1978, the exports had surpassed the 1977 figure of Dfl 329 million and reached Dfl. 376.6 million by the end of the year. India's exports to Holland increased to Dfl. 376.645 million guilders in 1978 from Dfl. 329.47 million guilders in 1977. India's imports from Holland also showed substantial increase from Dfl. 234.74 million guilders in 1977 to Dfl. 371.403 million guilders in 1978.

The general trend of Indo-Netherlands trade continues to be the same. A few variations are, however, noteworthy. Marine products, especially shelfish have registered an impressive increase from Dfl. 260,000 to roughly Dfl 2 million. Certain agricultural products like processed and preserved vegetables and dried fruits and sugar, reappeared as Indian exports to the Netherlands. Tea, however, slumped sharply from Dfl 14 million to 1.5 million and cattle feed from Dfl 35 million to 11.4 million. The problem with tea is partly attributable to the export duty levied in India whereas cattle feed declined both on account of restrictions in India as also lesser imports into the Netherlands. The fall in oil seeds from Dfl 11 million to 1.2 million is attributable to restrictions in India. There has been no import of jute so far. Cotton fabrics declined sharply from Dfl 7 million to 1 million which can be explained by the gradual running down of the garment industry in the Netherlands. On the other hand, there were impressive increases in leather, manufactures of leather and floor coverings. By far the single largest increase was, however, precious and semi--precious stones, which from Dfl 56 million in 1977 had jumped to Dfl 122 million in 1978. Engineering goods such as handtools, machine tools and household equipment registered modest increases and some additional diversification was seen in items such as sports goods, photographic apparatus, musical instruments, etc.

Along with exports, the Indian imports from the Netherlands have also gone up. The Indian imports in 1978, were Dfl 371.4 million leaving a small surplus in the balance of trade in India's favour. The rise in imports this year is mainly due to fertilizers which alone accounted for Dfl 118.11 million worth of imports upto end September, 1978. There were also substantial imports of vegetable oils and metal plates and sheets.

There are good possibilities for machine tools, forgings and machinery parts. Tapioca offers another goods export possibility. Leather goods, carpets and wooden furnuture can be further expanded considerably. Dutch team which visited the engineering fairs at Delhi and Bombay was very optimistic about the potential for engineering items in the Netherlands.

During 1978 a number of Indian firms and organisations participated in a few trade fairs in the Netherlands, namely: Roka,78 (food fair); RAI 2 (wheels trade fair); Vakantie,78 (tourism); International Household fair—VAT,78 (subcontracting industries); Technobeus Engineering fair; and Interdecor ,78 (for household fabrics, floor coverings, interior decoration items).

Indian displays at these fairs attracted not only good attention but also a large number of enquiries and Indian participants were able to secure orders for machinery, cycle parts, carpets, etc. Apart from these, an Indian Promotion Fortnight was organised through M/s. Vroom & Dreesmann, the leading chain deparmental store in the Netherlands in all its 44 branches. The occasion was a great success in introducing Indian goods to the Netherlands consumers. About 50 percent of the goods brought from India for the occassion were sold out briskly. The promotion campaign attracted wide publicity in papers and journals, and was extremely useful in i ing the Dutch public to a wi of Indian exports.

India and the GATT

The General Agreement for and Trade (GATT) is a mu treaty between Governments p for rights and obligations in t of commercial policy. India i the founder members of the The contracting parties have e a number of bodies for examin deliberating upon trade proble ing from the operation of the the important bodies are the of Representatives, the Commit Trade and Development, the sultative Group of '18', the Committee and the Balance o ments Committee. The Coun Representatives has been se perform the functions of the co ing parties between annual se The Committee on Trade and D ment is responsible for reviewin year how member countries are p into practice the provisions of P of the GATT concerning the s needs of the developing countries. Consubtative Group of '18' re developments in international tr scene with a view to pursuing and taining trade policies consistent the objectives and the principles General Agreements. In the Te Committee special arrangements lation to world trade in textiles negotiated and reviewed. The C mittee on Balance of Payment strictions carries out consultations the contracting parties which mai import restrictions for balance of ment reasons. In addition to these mittees various bodies have been s to perform specific functions.

During 1978-79 India continue participate actively in the delibera of the important bodies of the G not only to guard her rights bu to emphasise the need to impl effectively the special provisio

developing countries, accord- annual report of the Depart- Commerce, Union Ministry erce, Civil Supplies and on for the year, 1978-79.

ving are some of the high- the activities in relation to

he 34th session of the cont- ing parties held in Geneva in ember 1978 while reviewing major developments in inter- onal trade during the year the ian delegation together with umber of other delegations ught out effectively the econo- ill effects, particularly for less developed countries of rising trend of protectionism he industrialised countries.

Committee on Balance of ment Restrictions decided to l full scale consultations with ia in regard to import res- ions. The consultations were ordingly held in November 8 and the import regime was jected to intensive scrutiny the Committee. As a result the consultations the Com- tee commended the Indian horities for the performance he Indian economy, the signi- nt improvement in the bal- e of payment, situation, the nfortable foreign exchange re- e positions and in particular eralisation and simplification ts import regime. The Com- tee also recommended that ia may continue to pursue its icy of liberalisation and plification of import regime.

e Multi-fibre Arrangement ich aims at an orderly ex- nsion of world trade in textiles s renewed during 1977 and is id upto 30th December 1982. ring 1977 and 1978 India ducted bilateral negotiations with important textile importing countries with a view to regulating the trade and agreements were concluded with the EEC, the USA, Norway, Sweden, Finland and Australia. Except for Australia, the agreement covers all textile fibres. The Agreement with Austria is intended to cover cotton textile only. As in the past the agreement with the USA covers the whole range of products. In the case of other countries the items regulated under the agreements are mainly those which are being exported by India to these markets.

(iv) India is a party to the GATT protocol relating to preferential trading arrangements among developing countries which came into force in 1973. Seventeen developing countries are presently participating in this preferential arrangement by exchanging tariff concessions on specified items. A large number of developing countries have recently shown interest in joining the protocol. In order to facilitate wide participation in this forum, a new round of tariff negotiations is expected to commence shortly.

Indo-US Agreement for Monex-79 Data Collection

An Agreement was signed in New Delhi recently with the United States Government for carrying out scientific programmes for collection of data during the Monsoon Experiment (MONEX—79). The data which will thus become available will lead to improved understanding of the Southwest mansoon and could bring immense continuing economic benefits.

Mr. S.M.L. Bhatnagar, Secretary, Union Ministry of Tourism and Civil Aviation and Chairman of the MONEX management signed the Agreement on behalf of the Government of India and Mr. Robert Goheen, USA Ambassador to India signed on behalf of his Government.

The Agreement provides that three aircraft—Convair-990, Electra and P-3 belonging respectively to the National Aeronautics and Space Administration (NASA), National Centre for Atmospheric Research (NCAR) and National Oceanic and Atomspheric Administration (NOAA) of the United States of America will gather a large variety of meteorological data of great scientific value principally over the oceanic areas around India, which are the source regions of the southwest monsoon. The majority of research flight missions performed out of Bombay during May-June 1979 will obtain information on atmospheric conditions over the Arabian sea, western and contral India before, during and after the onset of the southwest monsoon.

The research flight missions planned out of Calcutta in July 1979 will concentrate on studying formation of monsoon depressions. The first aircraft Convair-990 has arrived in Bombay and the research flight mission is due to commence shortly. The other two aircraft are expected to come in shortly and commence flight missions immediately thereafter.

Satellite pictures will also be received four times daily at Bombay from tflhe geostationary satellite launcahed by USA over the equator at 60 degree E. These pictures will facilitate planning of research flight and other operations during Monex-79. India will provide logistic and technical support at Bombay and Calcutta for the conduct of research flight missions.

Indian scientists and representatives who will accompany all the research flight missions and actively participate in the data gathering effort will become familiar with advanced technology. India is to obtain copies of raw and processed data collected during the

aircraft flights and other scientific programmes of USA. Joint research programmes will be organised between India and USA to conduct investigations on the vast volume of data gethered during Monex-79.

Data gathered over tropical oceanic areas of the world during the two special observation periods of the Global Weather Experiment combined with the data obtained during Monex-79 would enable meteorologists study global aspects of the monsoon circulating especially the interaction of weather between the tropics and extra-tropical latitudes. The impact of the global circulation on the factors governing the southwest monsoon in the oceanic regions around the Indain sub-continent could also be studied.

Already four Indian Monex ships are recording meteorological and oceanographic observations over the Arabian Sea and the Bay of Bengal. These ships are recording, for the first time upper wind observations upto great heights over the sea areas around India. Besides, India is expanding the number and frequency of the existing upper air observations over land stations, enhancing the quality of radar observations, maximising marine weather reports from merchant ships and upper air reports from commercial aircraft.

The southwest monsoon rains are the most important natural bounty of the Indian sub-continent. These rains, which come year after year with some regularity, are in a sense inexhaustible, unlike other natural resources like coal or oil. Agriculture and power production in India depend mainly on the monsoon rains. The benefit of the monsoon is enjoyed by the whole of the south Asia, parts of China and Japan. Improvement in prediction of monsoon rainfall would considerably benefit Indian agriculture and country's economy.

In earlier years, two international meteorological Expeditions were conducted for gathering valuable data over the oceanic regions surrounding India. They were the International Indian Ocean Expedition (IIOE, 1963-1965) and the Indo-Societ Monsoon Experiment (ISMEX- 1973). Study of data gethered during these expeditions revealed many features of the monsoon, which were not known till then. Yet, there are many facets of the monsoon, such as conditions leading to monsoon onset, formation of monsoon depressions and strengthening of monsoon activity as well as couses for prolonged breaks in the monsoon, which are still incompletely understood.

A Global Weather Experiment was, therefore, organised by the World Meteorological Organisation (WMO) and the International Council of Sciatific Unions (ICSU) to be carried out during 1979. The first special observation period of this Experiment was conducted from January 5, 1979 to March 5, 1979. The second special observation period of this Global Experiment commenced from May 1, 1979 and will end on June 30, 1979. The Monsoon Experiment (MONEX) —1979 is an important regional subprogramme of the Global Weather Experiment, and will extend beyond the second special observation period, lasting till mid—August 1979.

The Monsoon-77 Experiment was conducted by India in collaboration with USSR during May-August 1977. Data collected during Monsoon-77 has already started yielding useful scientific results in meteorological and oceanographic research in various institutions in India.

Credit Validity to Overseas Banks Extended

Industrial Development Bank of India (IDBI) has extended the validity period for utilisation of the lines of credit sanctioned by it earlier to certain in Bangladesh and Mauritius.

The three banks in Bangladesh, Janata Bank, Bangladesh Shilpa and Bangladesh Shilpa Rin San were sanctioned credit aggregati 250 million in May 1944. The amount committed so far stan Rs. 239 million. At the request Bangladesh institutions, the ter date for opening letters of cre favour of Indian exporters has extended upto September 30, while that for disbursements und credit lines has been extended March 30, 1980.

The credit of Rs. 50 million Development Bank of Mauritius sanctioned in May 1977, out of a sum of Rs. 24 million has committed so far. At the instan the Mauritian bank, the terminal for opening letters of credit and disbursements under the credit has been extended upto May 3,

Indian exporters may approach importers in Bangladesh and Mau for amendments to old contracts for booking fresh contracts accordi

Industrial Growth an Diversification

Higher Cement Productio and Utilisation

Cement production and utilisatio capacity by cement plants have re ed record levels during 1978-79. installed capacity in the ce industry during the year increase 1.13 million tonnes, from 21.87 to million tonnes, production rose 19.28 million in 1977-78 to 19.60 m tonnes in 1978-79. The capacity lisation during 1978-79 was ne percent.

This information was given

ernandes, Union Minister of
in the Lok Sabha recently.
ister further informed the
f as against only seven Let-
ent and 11 Industrial Licences
al capacity of 8.46 million
sued during the preceding
s many as 35 Letters of Intent
n Industrial Licences for a
acity of 15.05 million tonnes
n issued during 1977-79.
estimated that during the
inancial year, the installed
in the cement industry would
another 4.63 million tonnes.
capacity and production were
to be nearly doubled during
n Plan period, the Minister

g to the reported inadequate
cement alloted to the States,
ster said that inspite of a record
on of cement, demand had
ed supply on account of a
nal spurt in construction
in the fields of irrigation,
ndustry and housing. It had,
, not been possible to meet
and of the States and the
Government Departments in

vernment had taken steps to
the availability of cement by
exports (except to Nepal) and
ging for import of 1.5 million
f cement in 1978-79 and about
llion tonnes in 1979-80, the
added. He further listed
owing measures, both short
d long-term, taken by the
ment to improve cement pro-
and availability:—

tates have been advised to
ake over public distribution of
ement and arrange for statutory
censing, and direct appoint-
ent of stockists, issue of per-
its to consumers, setting up of
dministrative machinery for
proper distribution and involvement of voluntary agencies.

(ii) The full requirements of irrigation and power projects are being met by prior reservation.

(iii) Existing rules relating to freight reimbursement for road movement have been liberalized.

(iv) Government have also granted assistance to the cement industry for use of captive power for production of cement during the periods of power cuts. (This is applicable to units having already capitve power generation facilities only).

(v) Government have approved the proposal to assist the cement industry for the use of furnace oil for production of cement due to inadequate supplies of coal;

(vi) The production of existing units is also closely monitored to see that the industry maintains an overall capacity utilisation of 100 percent;

(vii) The import of pre-calcinator technology has been permitted to enable the increase in production;

(viii) The construction of on-going projects in being expedited.

(ix) Government have also decided to encourage the setting up of cement plants at the site of or near steel plants to utilize the slag;

(x) Government also propose to encourage the setting up of a large number of mini cement plants;

(xi) A High Level Committee has made a comprehensive study of the cement industry and has made a number of recommendations. Government's decisions on prices and incentives have been announced recently.

(xii) The present regional imbalances in regard to distribution of cement in the country has been due to location of cement plants near limestone deposits. This imbalnnce is sought to be minimised by encouraging split location of cement plants; and

(xiii) A Cabinett Sub-Committee is currently considering the various measures adopted for conservation of cement. Conservation of cement is sought to be achieved by using substitute materials such as hydrated lime, husk, cement, sagal, lime mortar etc.

Notable Increase in Village Industries Output

Output of khadi and village industries in 1977-78, valued at Rs. 2574.3 million, showed an increase of 13 percent over the value of production in 1976-77. Of the total output during the year, khadi contributed Rs. 648.9 million and village industries Rs. 1925.4 million.

The sales of khadi and village industries products also increased from Rs. 2270 million to Rs. 2570 million.

This has been disclosed in the annual report of the Khadi and Village Industries Commission (KVIC) for 1977-78, presented to the Lok Sabha recently.

The accelerated production also significantly expanded full-time employment apportunities in the rural areas. During the year, full-time employment rose to 2.416 million persons against 2.025 million persons in the provious year. Of this, 23 percent beneficiaries belonged to the scheduled castes, scheduled tribes and other weaker sections of society. They numbered 0.556 million. The share of women in the total employment worked out to 1.078 million or 45 percent.

A purposeful direction to khadi and village industries came from the Industrial Policy announced by the Union Minister of Industry, Mr. George Fernandes, on December 23, 1977, says the KVIC report. Besides reserving 504

items for small-scale sector, the main thrust of the Policy was on effective promotion of cottage and small industries, creation of a 'tiny' sector, establishment of District Industries Centres and initiation of statutory measures to protect the cottage sector. In the new strategy of industrial develonment, the emphasis shifted from urban to rural, from large to small, from capital-intensive to labour-intensive technology and generation of large employment opportunities in rural and semi-urban areas.

The institutional finance for KVIC activities also gained momentum. For direct procurement of cotton and wool the cash credit limit from three banks, till March 1978, totalled Rs. 67.5 million. The KVIC also issued eligibility certificates for an amount of Rs. 99.7 million to 65 institutions including State Boards, till the end of Novemeber 1978. During this year the Government sanctioned a comprehensive scheme for providing interest subsidy to this sector in respect of loans raised from financial institutions.

The upward trend of production is reflected in almost all items. The output of gur and khandsari registered an overall increase of eight percent. In palm gur and palm products industry, the overall production value rose by 16 percent; specially in non-edible palm products the output during the year rose to Rs. 23.3 million from Rs. 9.7 million. Despite continued problems, such as shortage of raw materials, the handmade paper industry recorded increase of 11 percent in value of production over the previous year.

The level of per capita productivity and earnings also showed an upward trond. The earnings increased by 19 percent to Rs. 810 million as against Rs. 680 million in the previous year.

In non-edible oils and soap industry, the seed collection activity increased by 70 percent in quantity. Soap production value was up by 15 percent, sales in value increased by 17 percent and the total earnings in the industry went up by 70 percent. In pottery, the overall employment rose by 29 percent and full-time employment by 18 percent. In fibre, the output and employment increased by 16 and 19 percent respectively. In carpentry and blacksmithy, the value of output rose by 30 percent. The forest-based industries also registered a rapid rate of progress during the year under review.

With a view to bring about qualitative change in khadi and products of village industries to increase their market potential, research and development was given due emphasis. Twenty-two research schemes under the National Committee on Science and Technology were in operation during 1977-78. In the Five Year Plan of KVIC, more than 100 problem areas have been identified and specific schemes are being worked out.

Khadi and village industries products are making headway, though rigid foreign specifications in regard to khadi acted as a bottleneck. During the year, village industries products earned Rs. 5.474 million of foreign exchange and khadi earned Rs. 52,000. The KVIC has, however, made significant progress in exporting its technical know-how.

Several foreign countries envinced keen interest in KVIC activities, says the KVIC report. Tenzania, for instance had already an agreement for transfer of KVIC technical know-how to it. KVIC sent personnel to train Tanzanians in food processing and preservation, lime manufacturing, pottery, gobar gas plants, etc. Malawi showed considerable interest in the development of gobar gas industry. A delegation from Ghana visited various production centres and units to acquaint itself with the working of the various industries in this country, says the report.

Microwave Towers Factory at Bhilai

Construction of a new factory at Bhilai for the manufacture of microwave towers with manufacturing capacity of 1500 tonnes per annum is in progress. The factory is likely to go into production during this year. This was stated in the annual report of the Department of Posts and Telegraphs (P & T) for the year 1978-79.

A decision has been taken to import modern galvanising plants for telecom factories. Plans are being prepared for expansion of telecom factory at Bhilai to take up manufacture of tubes.

The final testing of 2000 line local exchange was completed and the exchange was commissioned in October, 1978 with about 950 connections. The cut over operations were very smooth and the exchange is found to handle a very high traffic.

The equipment supplies to Bareilly Trunk Automatic Exchange (TAX) has been completed and the installation is in progress. Testing of equipment has been commenced. It is expected that the TAX will be commissioned in June this year with Bareilly, Moradabad and Shahjahanpur as dependent stations and it will have access to national subscriber dialling network through Kanpur and Delhi TAXs.

Computerised automatic traffic recording and analysis equipment procured through IDA credit as a trial equipment has been commissioned at Delhi and is being applied for real time traffic monitoring and maintenance. An intensive study of the requirements of telecommunications in the rural areas has been carried out.

The improved telephone instrument developed by the Indian Telephone

es (ITI) and P & T together field trial at Delhi and Bom- andal proof and improved coin n box has been developed and put on field trial. Development electronic PABX, Electro- l-cum-transit exchange a d ic Telex Exchange has been with ITI. The development l TAX has also commenced.

ment work on improving the ance of single channel per SCPC) equipment for satellite ication was completed during r. Work on development of nt for TV with Multiple Audio) and Digital Communication Access was also completed. ials of SCPC equipment and ipment are continuing. Link TVMA equipment were comp- Digital communication multiple equipment prototype is under omestic satellite system studies to the 1979 World Adminis- Radio Conference (WARC-79) adertaken. Proposals based on tudies were presented at the Preparatory Meeting (SPM) RC-79 held in the third quarter

Distribution in l Areas

ion Steel Ministry has finalised me to distribute steel in rural hrough Rural Distribution Cen- bout 120 such centres are pro- o be opened during the current al year under the Scheme. Of about 80 distribution centres are out into operation by September ar. About 40 more will be set March, 1980.

first phase, which involves the up of 80 Rural Distribution es, the blocks included will cover Bengal, Bihar, Assam, Orissa, Haryana, Punjab, Himachal sh, Jammu and Kashmir, Maha- a, Gujarat, Rajasthan, Madhya Pradesh, Andhra Pradesh, Tamil Nadu, Karnataka and Kerala. The rural distribution network is ultimately expected to cover all the blocks in the country within the next few years.

While the blocks have been selected from the list of districts identified by the Government for intensive fertiliser campaign as an index of growth potential, the actual location of the centres will be finalised in consultation with the State Cooperative Marketing Societies and the State Agro-Industries Corporations.

The scheme envisages supply of about 50 tonnes per month of certain categories of steel to each centre in accordance with the demand in the area. The steel will be supplied to the State Apex Cooperative Marketing Federations and depots of the State Agro-Industries Corporations at a rate lower than the stockyard price.

This scheme is in keeping with the Government policy to stimulate steel consumption as a means to quicken the pace of economic activity in the rural areas. At present, part of the rural demand for steel is being met by the stockyard network of the Steel Authority of India Limited (SAIL) and Tata Iron and Steel Company (TISCO).

The new centres will be set up and operated by the existing distribution network of the state Apex Cooperative Marketing Societies and depots of the State Agro- Industries Corporations, with the active assistance and support of SAIL. SAIL has already initiated discussions with these State agencies for this purpose.

Lakhya Dam at Kudremukh Completed

The completion of the 620 metre-long and 70 metre-high Lakhya Dam is an important landmark of the Kudremukh project. The Dam will serve as the settling basin for tailings which are the reject material in the process of recovering concentrate, so that down stream of the Bhadra river does not get contaminated. This will meet part of the need for water in the plant operations. The Dam, with an investment of over Rs. 120 million, is basically an anti-pollution measure.

The process at Kudremukh involves enriching the iron ore. During the process, the concentrate in slurry form is to be sent through a pipeline to Mangalore where it will be dewatered and dried for export to Iran in ships. the tailings from the two thickeners of the Concentrator plant and the tailing cyclones will be collected in two tailing disposal pump houses. From here, they will be pumped through three 450 mm. rubber lined tailing lines, one of which is a standby. Each of the pipelines will be provided with five 600 HP slurry pumps in series. The tailings system is rated at 1,226 tonnes of solids per hour in 40 percent solid slurry.

Experimental work to study the settling characteristics of tailings impounded in the Lakhya Dam and prevent its overflow to the Bhadra river was undertaken by Central Water and Power Research Station at Khadakwasla, Poona. The scheme, financed by Kudremukh Project, has been of considerable help in establishing various parameters for the establishment of the Dam to safeguard against any possibility of pollution of the Bhadra. The Lakhya stream is a tributary of the Bhadra river, with a catchment area of 20 square kilometres at the point where the Dam is built. The Dam has a water spread area of 2.70 square kilometres and a total storage capacity to contain 91 million cubic metres of tailings. This will provide 7 to 8 years storage for tailings arising from the operation of the Kudremukh project. For the discharge of the monsoon outflow one 35-metre wide and 537-metre long concerete spillway with tail-race channel is provided.

The Dam was constructed in about 360 working days after the commencement of work in March, 1977. The construction was carried out using heavy earth moving equipment for excavation, hauling and subsequent compact. Manual labour around 2,000 were employed for the various works connected with the Dam. Under favourable weather conditions with adequate working space available, 25,000 cubic metres per day embankment work on an average was done, touching a peak of 29,000 cubic metres per day. The major quantity of work involved in the construction of the Dam was stripping—175,000 sq. metres earthwork in excavation—813,000 cubic metres, earthwork in embankment—3400,000 cubic metres, graded filter—64,500 cubic metres, turfing—52,000 cubic metres, and concreting 14,000 cubic metres.

As part of the broad-based plan to preserve Kudremukh's ecology and as an anti-pollution measure, it is proposed to afforest all along the catchment area of the Lakhya Dam above 850 metre level. This will prevent soil-erosion as well.

1978-79 was a year of significant achievements for the Kudremukh Project. Substantial progress was made during the year in the areas of civil engineering, structural and equipment installation. Placement of orders for equipment was completed and the major items such as electric mining shovels, blast hole drills, dump trucks, gyratory crushers and autogenous mills were received from foreign suppliers. The erection of the autogenous mills was taken up ahead of schedule, in September, 1978. The 1.6 kilometre tunnel for the slurry pipe line was completed in May, 1978, six months ahead of schedule. In all areas, the Project is forging ahead towards completion for shipment of ore by August, 1980.

Working Group on Credit for Small Industries

The Reserve Bank of India (RBI) has constituted a Working Group with Mr. W. S. Tambo, Executive Director, RBI, as Chairman to examine the question of setting up an Apex Financial Institution for meeting the credit requirements of the small and decentralised sector of industry. The terms of reference of the Working Group will be as follows:

(i) To suggest ways and means for increasing the credit flow to meet the requirements of the small and decentralised sector of industry, and in this context, to assess the possibility of setting up a separate financial agency for this purpose.

(ii) To consider matters of both legislative and administrative character (such as whether any such financial agency should be independent or should operate under the aegis of the Reserve Bank and if so, in what manner). which will need to be sorted out prior to the actual establishment of a new financial agency.

(iii) To examine whether any such agency should cover the entire gamut of the small-scale sector, or agencies need to be established to meet the credit requirements of the small-scale sector and village and cottage industries separately.

(iv) To determine the scope of activities such as refinancing operations and marketing operations ——to be entrusted to the new financial agency.

(v) To determine the linkage between the proposed financial agency and the existing credit channels such as commercial banks and State Financial Corporations.

Besides the Chairman, the Working Group will consist of Dr. R. K. Vepa (Development Commissioner, Small-Scale Industries, Government of India), Mr. R. Srinivasan (Development Commissioner, Handlooms, Government of India), Mr. Bharat Sahay (Development Commissioner, Handicrafts, Government of India), Mr. B. Patnaik (Director, Union Ministry of Finance), Dr. S. A. Dave (Executive Director, Industrial Development Bank of India), Mr. D. C. Gupta (Executive Director, Punjab National Bank), Mr. K. Ramakrishnan (Chief Officer, Small Industries and Small Business Banking Department, State Bank of India) and Dr. P. D. Ojha (RBI) who is the Member Secretary.

The Working Group is expected to submit its report to the Government as early as possible, preferably by the end of June 1979. The Secretariat will be provided be the Industrial Finance Department. RBI.

Industrial Electronics Promotion Programme

The Industrial Electronics Promotion Programme (IEPP) is a plan activity of the Department of Electronics to promote appropriate automation in the country and to create the required infrastructure for development and production in the control, instrumentation and industrial electronics (CIIE) sector. This objective is being realised through (i) setting up a network of system engineering cells to catalyse the integration of electronics techniques for various sectors of economy (ii) by evolving a comprehensive multi-disciplinary educative programme on all aspects of control and industrial electronics by setting up an Appropriate Automation Promotion Laboratory and (iii) by acting as a focal point for information, planning and coordination in the CIIE area.

System engineering cells are being established in user organisations with joint financing and management by the Department of Electronics and the industry. In many of the priority areas identified by the concerned techno-

also the 22-industry survey
n by Information Planning
ysis Group (IPAG), system
ıg cells are being initiated
ɔecific institutional structures.
uch projects have been ini-
the areas of mining, sugar,
agriculture. For instance,
ng and System Enginering
C), is in the process of being
d at the Central Mine Plann-
Design Institute of Coal India
Ranchi. A collaborating ven-
ıe Department of Electronics,
lia Limited, Department of
nd Department of Coal, the
ıas been approved by Electro-
ımission at a total cost of Rs.
ion including recurring ex-
e of Rs. 2.2 million for the
ee years. It will assess the
electronic requirements for each
area, and ensure design, en-
g and project implementation
ɔle electronic systems for the
industry. The major Projects
ɔordinated at present by this
in selected experimental mines
the coal and non-coal sub-
The Implementation Advisory
tee for Mining Electronics will
the working of the Cell.

ning and promotional activities
field of control and industrial
ıics, an Appropriate Auto-
Promotion Laboratory in-
ting various levels of electro-
ated automation relevant to the
industrial sectors has been
d and is being installed in
The first phase of the Labora-
ıs successfully completed during
). The Laboratory has now been
ed with a comprehensive open-
nulator facility, covering a range
rol levels starting from low-cost
ation to distributed micropro-
based control. IEPP organised
strations including technical
o promote the concept of appro-
automation with special regard
duction processes in small scale
and cottage industries. Training programmes involving low-cost automation and microprocessor-based control were arranged.

IEPP has been acting as the focus for any activity involving planning, coordination and information for the control, instrumentation and industrial electronics sector. It coordinates the TDC Working Group-IV activities on Control and Industrial Electronics and several Technology Development projects were launched. IEPP was involved in analysing the cases where large imports of control, instrumentation and industrial electronic systems is taking place in large on-going projects and promoted indigenous items wherever possible. Technical assistance was given for selection of technologies in proposed foreign collaborations. A comprehensive information system for control, instrumentation and industrial electronics sector has been designed. The work on production data base has been completed and that for the remaining aspects of the information system is in progress.

Science and Technology

Microfiche Camera Developed

The National Remote Sensing Agency (NRSA) at Secundrabad has developed a 'Microfiche Camera' to store the remotely sensed data obtained for the survey of natural resources. The Microfiche Camera makes it possible to store a large amount of technical and business information in the form of photographs of greatly reduced size.

Microfiche is a recent development in the reprographic communication technology. It is an efficient and practical way of handling large amount of information. Microfiche is a flat sheet of Film with a number of micro images on it. It is in various sizes and can hold upto 500 images. A commonly used size is 145 mm x 105 mm sheet film containing between 20 to 60 frames.

The camera has been designed to accommodate 145 mm by 105 mm sheet film to store 20 formats of micro images on it. The originals to be photographed can be either in transparency mode or in opaque mode of A3, A4 and A5 sizes. The ratio reduction is 15:1 in both the modes of operation.

The microfiche camera unit mainly consists of camera unit. lens unit and light and exposure control unit.

The camera unit has an arrangement to carry and slide film cassete in two mutually perpendicular directions. The position of the cassette can be identified with the help of viewer and marking pattern on the cassette. It is a day light cassette and hence the camera can be operated in the day light. The cassette can be shifted to 20 positions. A grid is inserted in the cassette and focussed on a platform to get sharp focus by adjusting the camera unit on a vertical column.

A 35 mm wide angle lens forms the lens unit. An electromagnetic shutter operated by on electronic timer is coupled to this unit. The exposure time could be set between 0.1 and 1 second using the timer.

The light and exposure control unit consists of lighting arrangement for transperency as well as reflection mode. The lifihting system for transparency mode has a light intensity control to accomodate wide density variations in the originals. This unit has electrical controls and platform to hold material to be photographed.

The equipment is eight times cheaper compared to similar imported equipment. It is easy to operate and the material to be photographed can be handwritten, printed or typed. The number of formats can be changed. The focussing can also be done on a

ground glass cassette. The microfiche film can be read image by image on a microfiche reader.

Thermovac Chamber at Space Centre

A four-metre thermo vacuum chamber will be commissioned soon at the Indian Space Research Organisation (ISRO) Satellite Centre(ISAC) at Bangalore. This thermo vacuum chamber will have the provision for mounting a solar simulator. It will be used for the testing of India's first experimental geostationary communication satellite called APPLE (Ariane Passenger Pay Load Experiment). Designed jointly by the Indian Space Research Organisation (ISRO) and Bhabha Atomic Research Centre(BARC), this is being fabricated by the Indo-Burma Petroleum (IBP). It is expected to cost over Rs. 6 million. The work on thermo vacuam chamber started in May last year.

Thermo vacuum chamber is a sophisticated facility required for the development of Space technology. This is a large space simulation chamber which simulates the space environment both in terms of space vacuum and temperature, for testing and qualifying the satellites.

The two-metre thermo vacuum chamber was commissioned at ISAC last year. The Rs. 2.5 million simulator was the first to be indigenously developed by the joint efforts of the IBP, BARC and ISRO. It was through such cooperation that it was possible to bring expertise in a veriety of disciplines such as mechanical, electrical, thermal, electronic and cryogenic engineering and high vacuum technology.

The chamber is essential for environmental testing of satellites and satellite sub-systems. The thermovac chamber is designed to be of use for testing the components of the Satellite for Earth Observations (SEO), scheduled to be launched shortly. It has a 2-metre diameter and a length of 2.5 metres. It has indigenous components to the extent of 85 percent of the total. These include the finned-tube type thermal shroud, cryogenic heat exchanger and the super-insulated liquid-nitrogen container.

New Low Cost Energy Sources

Mr. V. G. Rajadhyaksha, Member, Planning Commission, recently urged the leaders of industry to face the challenge of introducing mass produced low cost energy saving and non-conventional energy producing devices and systems in the country. He pointed out that the question was not so much of financial resources but of forward looking companies creating the appropriate products and the markets.

Mr. Rajadhyaksha was addressing a meeting on energy and engineering industry organised by the Association of Indian engineering industry in New Delhi, recently. He emphasised that for solving the energy crises, India could not afford to follow the socio-economic development pattern of the West, and her major energy policy should be to maximise the utilisation of local energy resources at the optimum level of aggregation.

Elaborating the possibilities in this direction, Mr. Rajadhyaksha advocated the use of more solar energy, as sunshine was abundent in the country. He pointed out that a company had already come out with a small turbine pump driven by solar cells costing about Rs. 10,000 with the prospect of cost coming down to Rs. 6,000. Central Electronics Limited had also developed an indigenous cell system which was already competitive with the conventional system for remote village and especially for small farmers who did not need 3 and 5 HP pumpsets. The prospects of further reduction in costs of solar cells and conversion efficiencies were bright and such a dev could totally change India programme for rural and e urban electrification, he adde

Talking on energy plantatic Rajadhyaksha said that the State Electricity Board had started an experiment to set MW power plant burning tim a self-regenerating 30 hecta ation using waste land. He po that this required the ap of high level of horticulture logical research in choosin which had a high solar energy sion ratio, sophisticated eng inputs into preparing and timber in a way which maxim conversion efficiency and opt tems for transmission a tribution.

Giving another example of ine energy sources, Mr. Rajad said that an engineering stud built a 1.5 KW mini hydel of Rs. 2,000, exclusive of labou was donated by the villagers. roughly 1/3rd of the cost per a modern thermal plant and t excluding the cost of transmissi was far higher in the case centralised genertion units tha for small local ones. The ope cost of such projects were n and there would be no prol vast investments in coal ing and its transportatio lution and theft. He also poin that these projects would be employment-intensive and co a technological challenge to y the villages.

Mr. Rajadhyaksha said that alcohol, which could be prod the country in very large qu could become a major source of power for transportation or for small engine driven pumps tors. While the 80:20 petrol mixtures for cars were well kno urged the engineers to take

enge of developing high efficiency es, burning power alcohol for ring commercial vehicles and power packs.

Rajadhyaksha urged the people new devices which consumed less y. He pointed out that while ew kerosene stoves which had been oped could give a 60 percent tion in usage, the old type pres- stoves still held the field.

ar Photovaltaic hnology

said that the solar energy reaching 's surface is so immense that a small fraction of this (0.02 per- only would be sufficient to meet world's energy requirement. India ch in sunshine and decentralised, tion-free power systems based on r energy can be set up. The pho- ltaic process in which sunlight is tly converted to electricity is a atile approach. It can be used to vater trapped in the rocks below the ace of the earth with the help of photovoltaic water pump- ystem.

lar photovoltaic (PV) water pump- system has been set up in Central tronics Limited at Sahibabad. The ping system has been in operation e March 1977 and has established technical feasibility. This is a part he programme sponsored by the partment of Science and Techno- to develop photovaltaic technology.

solar (PV)water pumping system, photovaltaic modules convert sun- t directly into electricity. The put electric power is proportional he intensity of light. Therefore, it ies during the day-time and at night e is no output. In Indian environ- nt, under today's technological ditions, one square metre of solar module will yield 400 Whrs of of electrical energy per 24 hour cycle. However, these modules can only generate electrical energy but they cannot store energy by themselves. They are usually designed, to charge suitable lead acid storage batteries, which are easily available in the market. The life of these modules is expected to be around 10-15 years, during which only their surfaces need to be cleaned occasionally.

Besides solar PV modules the system consists of power conditioning equipment, storage batteries, water pump and a storage tank. Power conditioning equipment is required for protecting the storage batteries from over-charging or discharging during non-sunshine hours, and for converting direct current (DC) into alternate current (AC) if the system is to be coupled with an AC water-pump.

Storage batteries store the electricity produced from the modules throughout the day and supply it to the pump when needed. These are generally lead acid type. The capacity of the battery depends on the requirement. A number of them can be coupled together to store the required energy.

The choice of water pump depends upon the water level around the place of installation. For water levels upto eight metre depth from the surface, standard centrifugal pumps can be used. These are simple devices, available for operation with both AC and DC.

Water tank is needed so that water can be stored and taken out as and when required. The capacity of the water tank is made slightly is excess of the actual requirement, so that extra amount of water can be stored for overcast and rainy days. It is usually made of reinforced cement concrete (RCC).

Solar (PV) water pumping system has many advantages as compared to conventional systems. The power generating source will be located right at the site of use and transmission lines are not required. No fuel is required and the maintenance cost is minimal. The modular nature of the source makes its repair easy, cheaper and less time consuming. The components have long life of 10-15 years and the system does not require skilled technicians to operate it. Solar (PV) pumping system will be ideal for villages in India which have not yet been electrified.

At present the cost of the system is very high. This is due to the fact that solar (PV) technology is relatively new here. The present cost of Rs. 250 per peak watt of solar PV modules is expected to come down to Rs. 50 per peak watt by 1981-82 and Rs. 25 per peak watt by 1983-84 by further research and development. A cost analysis indicates that at a cost of Rs. 50 per peak watt PV modules, the solar PV water pumping system becomes cost effective in comparison to the present 3 Hourse Power diesel set. It is expected that by 1983-84, the solar photovoltaic water pumping system would be the cheapest alternative in unelectrified, remote Indian villages.

All Round Progress in Indian Economy

The year 1978 witnessed all round progress in the Indian economy, according to an economic review published in the State Bank of India (SBI) Annual Report, 1978. With a bumper harvest for the third year in succession, large stocks of foodgrains and pick-up in the growth rate of industrial production, the overall supply position remained comfortable except for a few critical items, the shortages of which were made good by imports. Despite a fall in the country's exports and a sharp rise in imports, the foreign ex-

change reserves were further strengthened, although the rate of accretion slowed down. The most important achievement in the management of national economy in 1978 was the maintenance of price stability. There is, however, need for improving the rate of growth of the economy.

Despite the heavy floods in some parts of the country, prospects on the agricultural front during 1978-79 appear to be encouraging. Foodgrains production is likely to exceed 126 million tonnes and the outlook for commercial crops also seems to be promising. In view of large foodgrains stocks of 16.4 million tonnes and the expectation of a bumper harvest in 1978-79, the supply position is likely to remain comfortable during 1979.

Although the growth of industrial production in the country remained sluggish in the first quarter of 1978, it showed a significant improvement in the remaining months of the year. The average index of industrial production registered an increase of 6.7 percent during the first eleven months of 1978 as compared with the rise of 5.3 percent in the corresponding period of 1977. Especially during April-November 1978, the growth rate improved to 8.1 percent from 4.1 percent in the corresponding period of 1977. The pick-up in industrial production was made possible by an improvement in power supply and the measures initiated by the Government to overcome demand recession in some industries and capacity constraints in others coupled with the good performance of the agricultural sector. The measures included various fiscal incentives, emphasis on achievement of targets, already set, in respect of crucial industries like power, coal, steel, fertilisers and non-ferrous metals raising production targets in industries where demand justified this step, such as paper, cement, commercial vehicles, wagons, textiles, etc., advance planning of imports and buffer stocking of crucial inputs and constant monitoring and co–ordination. These steps augur well for further acceleration of growth in industrial production in the coming months.

While the rate of capital formation showed a marginal rise during 1977-78, investment activity remained somewhat subdued during 1978 as reflected in a decline in the number of industrial licences issued and consents for capital issues. The buoyancy in share markets, the higher amount of capital raised, spurt in the assistance sanctioned by the all-India term lending institutions, good performance on both agricultural and industrial fronts and improved demand prospects, however, are indicative of a revival in investment activity in the coming months. Among the important measrses initiated to provide a stimulus to investment activity were fiscal concessions given in the Union Budget for 1978-79. Liberalisation of import policy, simplification of licensing procedures and reduction in excise duties on cement, aluminium and sugar, liberalisation of the soft loan scheme of the Industrial Development Bank of India (IDBI) for modernisation of selected industries, lowering of interest rates by banks and the decision of the Government to increase investment in vital sectors such as steel, power and oil exploration.

Widening of a trade deficit was a major development affecting the external sector of the economy during 1978. The year ended with a trade deficit of Rs. 10,120 million as against a of Rs. 2,490 million in the pr year. The deficit was the resul decline in export earnings a increase in imports. The decli exports was largely due to a slow in economic activity in the indus ed countries and protectionist me adopted by some of them, lowe value realisation and the G ment's policy to restrict the exp mass consumption goods.

India's foreign exchange reserve cluding gold and SDRs) increa Rs. 8,920 million during the ye against Rs. 17,000 million in At the end of 1978, India's total fo exchange reserves stood at 226 m SDRs and Rs. 51,100 million in and foreign currencies as again million SDRs and Rs. 41,910 m in gold and foreign currencies a end of 1977.

The index of wholesale prices sho decline of 0.2 percent during 19 against a rise of 4.6 percent in Stable price level was a notable fe of the economic scene and this wa by the encouraging performance o agricultural front, improvemen industrial production, ban on the t of essential commodities, liberalis of imports, lower rate of grow money supply and continuation o restrictive credit policy by the Res Bank of India.

The rate of growth of money su during 1978 came down to 13.1 pe from 16.7 percent in 1977. This mainly due to a fall in the rate of g of foreign exchange assets of the ing sector and a higher growth of deposits.

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Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1—9, 1979
Damascus International Fair, Damascus (Syria)	July 4—23, 1979
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979.
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25—29, 1979
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November—December, 1979
Indian Exhibition, Manil (Phillipines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

Highlights

ıg Indo-Philippines Trade
ːment has been recently signed by
d Philippines for developing and
ːning direct trade and economic
between the two countries. The
ıt accords the most favoured
ːeatment for each other. It also
encourage and facilitate exchange
of commmercial and technical
tative groups. (Facing column)

ɡerian Steel Cooperation
ːon Minister for Steel and Mines
ju Patnaik assured the visiting
Federal Commissioner of In-
Dr. R.A. Adeleye, that India
ssist Nigeria in developing its
ısultancy services and also offer
facilities for the development of
industry in that country. (Page 2)

Leather Exports
exports registered a significant
of 28 percent, touching an all-
ɡh of Rs. 3,304 million during,
thus exceeding the target of Rs.
illion as against the exports of
9.2 million in the previous year.

(*Contd. on page* 2)

Export Performance and Potential

Trade Agreement between India and Philippines

India and the Philippines recently signed in Manila an agreement to develop and strengthen direct trade and economic relations.

The accord was signed by Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation, on behalf of India and by Mr. Troadio T. Quiazon Jr on behalf of Philippines.

The agreement accords the most favoured nation treatment to each other in accordance with provisions of the General Agreement for Tariffs and Trade (GATT) and covers customs duties and charges of any kind including method of levying such duties and charges imposed on or in connection with importation or exportation or imposed on the transfer of payments for imports and exports. It also covers rules and formalities connected with customs clearance; all internal taxes or other internal charges of any kind imposed on or in connection with the imports and exports and the issuance of import and export licences.

With a view to further developing mutual trade, the two countries will encourage and facilitate exchange of visits of commercial and technical representative groups and delegations and participate in trade fairs and exhibitions.

The agreement also provides for merchant cargo bearing vessels of either country the most favoured nation treatment in respect of entry into, stay in and departure from the ports. The trade agreement will come into force

Supply of Film Rolls Increased

The annual production of Hindustan Photo Films Manufacturing Company limited (HPF) is being stepped up to 15 million rolls. The demand for the 120 size black and white roll films has been assessed at 20 million per annum. To augment supplies, the State Trading Corporation has already been authorised to import a total of 10 million rolls during the current financial year. With this, the total supplies available during 1979-80 would be 25 million rolls against the assessed demand.

Automatic Salt Handling Plant

An automatic salt handling plant is to be installed at Haldia Dock at a cost of Rs. 7. 15 million. It will be ready by July 1980. The Dock will also be equipped with a bagging and stitching plant. Costing about Rs. 373 million, the plant is expected to be operational by the end of the year. The Dock has six berths to handle coal, ore, fertiliser, general cargo, containers and salt. Since its operation over two years ago it has handled over 7.3 million tonnes of traffic.

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on ratification or approval in conformity with the respecttve laws of and the Philippines. It shall remain in force for one year and shal tinue in force thereafter unless terminated by either party through a month prior written notice.

At the signing ceremony, the two sides also exchanged letters setting Joint Committee. The committee will consist of representatives of th countries and shall meet alternately in India and the Philippines. review and keep under consideration the implementation of the provi of the agreement. The committee will also examine measures for the tion of problems which may arise in the implementation of the agree and co nsider proposals for further expansion of trade.

Speaking on the occasion, Mr. Dharia said that India would hold an clusive exhibition in Manila next year. India, he added, was making effort to give a boost to its trade with the ASEAN nations and in 19 the exports from India to the region rose by 15 percent. He hoped th would go still further. Referring to the agreement concluded, Mr. Dh said that both India and Philippines had agreed not only to reduce t imbalances but also to considerably enhance the trade. The Comm Minister invited his Philippines counterpart Mr. Quiazon Jr to India.

Indo-Nigerian Cooperation in Steel

Possibilities of greater Indo-Nigerian cooperation in steel and Indian ticipation in turnkey projects in Nigeria were discussed in New De recently when the visiting Nigerian Federal Commissioner of Industr Dr. R. A. Adeleye, met the Union Mtnister for Steel and Mines, Mr. Patnaik.

The progress of work on the one million tonne direct reduction steel pl now being set up at Warri in Nigeria with Indian technical assistance w reviewed at the meeting. The public sector Metallurgical and Engineer Consultants (India) Limited (MECON) is already doing the technical co sultancy and project monitoring for the plant. This assignment was awa ed to MECON in January, 1978. The Nigerian Minister commended t work being done by Indian engineers and steel consultants in Nigeria a said that the possibilities of further cooperation between the two countr in the expansion of Nigerian steel plants could be explored.

The Union Minister assured the Nigerian Minister that India would he Nigeria in developing its own consultancy services and also offer train facilities for the development of the steel industry in Nigeria.

Dr. Adeleye said that his Government proposed to set up a National dustrial Consultancy Organisation and mentioned in this context that on basis of its experience and evaluation of India's capabilities in this fie Nigeria would welcome Indian assistance in developing its own enginee base and expertise in steel.

Reference was also made to the steel township, comprising about 4,5 houses, for which MECON had won a consultancy contract last year.

errous Castings Japan

ndustrial consumers have n interest in tapping India source to meet their ferrous quirements. This is evident arge number of enquiries y the Indian delegation by Trade Development (TDA) which recently a four-week sales-cum- of Japan.

to the delegation, the market is opening up and d export potential. The delegation led by a r included four represent- medium and small scale handling grey iron, malle- d SG iron. The main reason to the welcome develop- de prospects, the delegation e spiralling cost of the Japa- ry products and the con- incompetitiveness of the nd products in the overseas he growing shortage of workers in Japan is yet factor.

uiries received by the dele- ted to grey iron, steel, ductile able iron and also to non- products like forgings Some of the large-scale con- xpress willingness to visit exploring the possibilities ling longterm supply arrange- few possibilities of third usiness were also identified.

of technology and productivity Japanese foundry industry the delegation.

the Indian foundries will upgrade their technology rove the foundry practices to meet the Japanese re- ts. The Japanese exporters generally found the Indian prices competitive for most products. However, in the case of steel castings the prices were not considered competitive.

Sharp Rise in Heavy Industry Units Exports

The public sector units under the Department of Heavy Industry registered, during 1978-79, a phenomenal increase of 132 percent in their export performance. The total exports of these units during 1978-79 amounted to Rs. 2398.4 million as against Rs. 1033.4 million during 1977-78.

This is specially commendable as the overall growth of engineering exports in 1978-79, over 1977-78, was only 20 percent. The interse share of the public sector units in the total exports is indicative of their improved competitiveness and technical acceptance of their products in world markets.

These units secured export orders (including the International Development Agency contracts paid for in foreign exchange) of Rs. 781.5 million during March, 1979, alone as against orders of the value of Rs. 14.6 million secured during February, 1979. The increase was mainly due to Rs. 743.4 million IDA project contract secured by the Bharat Heavy Electricals Ltd. (BHEL).

During the year 1978-79, the total value of export contracts secured was Rs. 3048.4 million.

The value of the export orders pending with various public sector units on March 31,1979, amounted to Rs. 8,686.4 million. The major projects under execution are with the Engineering Projects (India) Ltd. (Rs. 5453.1 million), BHEL (Rs. 2,500 million), Heavy Engineering Corporation (Rs. 263.3 million), Jessops (Rs. 98.2 million), Scooters India Limited (Rs. 76.8 million) and Braithwaite (Rs. 97.7 million).

Seminar on Essential Oils from India

The Basic Chemicals, Pharmaceuticals and Cosmetics Export Promotion Council will organise a Seminar on "Essential Oils from India" in collaboration with the International Trade Centre (ITC), Geneva, from October 29 to 31, 1979 at the West End Hotel, Bangalore. The Seminar would essentially have commercial orientation, the main purpose being to bring together producers and exporters of essentials oils with foreign importers and users of the same. About 50 delegates from different countries are expected to participate in the Seminar.

While highlighting the range of essential oils which India can offer, the Seminar intends to bring home to Indian exporters the problems faced by foreign importers and users relating to prices, quality, delivery schedule, etc. Though the proceedings of the Seminar would be be in English, arrangements have been made for translation into French and Japanese languages.

The 3-day Seminar would be followed by two days visit to the centres of essential oil production in India so that the participants may have first hand knowledge of the Indian essential oils industry. As part of the Seminar, it is also proposed to hold an exhibition on Essential Oils of India.

The main subjects for discussion in the Seminar would be on:

1. Marketing of essential oils to USA, West Europe, Japan and Far East.
2. Future of essential oils industry with particular reference to non-traditional oils.
3. World trade in essential oils with particular reference to shifting patterns of cultivation and production.

4. Problems in essential oils production.
5. Sandalwood oil—a case study.
6. Citronella and lemon grass oil vs. synthetics.

Blanket Exchange Permits

The Reserve Bank of India (RBI) has clarified that multi-unit export firms can avail of the facility of blanket exchange permits at different centres where units of the firm are functioning. Subsidiary blanket permits will be issued to the concerned. units by corresponding reduction in the main blanket permit issued to the Head Office. This has been done with a view to facilitating travel by sales and technical representatives attached to the units located in the different parts of the country away from the Head or Controlling Office. Mutli-unit export firms interested in availing of the facility may approach the Office of the Reserve Bank which has issued the blanket permit indicating the Office at which they want to avail of the subsidiary blanket permit facility and the amount of foreign exchange allocation required to be made to the unit.

Hitherto blanket permits were issued only to Head Offices of the eligible exporters both under the RBI Scheme as well as the ITC Scheme.

Upswing in Silk Good Exports

Exports of natural silk goods the financial year 1978-79 touc all-time high of 11.45 million s valued at Rs. 401.15 millio gratifying to note that the mance has exceeded the target 350 million for 1978-79 recom by the working group on se by about 14.6 percent when cc with the performance of 10.1(sq. mtrs. valued at Rs. 315.97 during the preceding year. The performance reflects an increase percent in quantity and 27 in value.

The comparative data of expc given in the following table:

Quantity : million sq. n
Value : Rs. in million.

Year	*Mulberry*		*Tasar*		*Total*	
	Qty.	*Value*	*Qty.*	*Value*	*Qty.*	*Value*
1978-79	9.89	345.45	1.56	55.70	71.45	401.15
1977-78	8.80	271.46	1.36	44.51	10.16	315.97

It is quite clear from the table that the mulberry silk goods exports accounted for the bulk of aggregate exports during the year 1978-79 amounting to 9.89 million sq. mtrs. valued at Rs. 345.45 million as against 8.80 million sq. mtrs. valued at Rs. 271.46 million in 1977-78 and registering an increase of 12.3 percent and 27.3 percent in quantity and value respectively.

India's exports to Italy, Saudi Arabia, Belgium, Japan, Dubai and Yugoslavia during the period under review increased by 47 percent, 92 percent, 82 percent, 84 percent, 143 percent and 69 percent respectively when compared with that of 1977-78. Countrywise comparative data of export of mulberry silk goods are given in the following table :

(Rs. in million)

Country	*April-March*	
	1978 —79	1977 —78
West Germany	59.07	43.45
USA	54.25	31.36
Malaysia/Singapore	27.20	28.50
UK	39.18	39.56
France	24.16	28.17
Italy	18.44	12.58
Switzerland	14.72	12.67
Saudi Arabia	11.15	5.81
Belgium	9.27	5.10
Canada	5.67	3.15
Mauritius	8.73	6.17
Japan	11.28	6.12
Dubai	8.10	3.32
Sweden	4.48	4.83
Netherlands	4.83	3.33
Oman	2.96	
Fiji Islands	2.92	
Australia	4.39	
Denmark	2.69	
Yugoslavia	6.45	
Others	25.42	
Total	345.45	

Compared to last year, the ea from ready-made garments, c dress materials, ties and registered an increase of 92 p 58 percent, 53 percent, 45 percen 5 percent respectively, while that of scarves/stoles showed a ginal fall of 10 percent during the

The comparative data on variet exports of mulberry silk goods are in the table on next page :

Value (Rs. in million)

	April-March	
	1978—79	1977—78
s	79.58	75.45
ts	60.88	38.45
materials	70.49	45 99
ymade garments	52.09	27.14
es, Sticles	66.16	73.64
	0.52	0.36
rs	15.71	10.42
	345.45	271.46

egate exports of tasar silk goods g 1978-79 amounted to 1.56 mil- sq. mtrs. valued at Rs. 55.70 mil- thereby reflecting an increase of t 15 percent and 25 percent in tity and value respectively, as ared to exports during 1977-78. 1.36 million sq. mtrs. valued at Rs. million.

The comparative data on exports of tasar silk goods to important countries are given in the following table.

(Rs. in million)

Country	April-March	
	1978—79	1977—78
UK	1.62	2.21
West Germany	27.15	25.82
USA	12.07	6.81
Netherlands	2.48	0.57
Italy	1.71	1.06
Hong Kong	0.52	0.36
Switzerland	1.97	1.44
Japan	1.41	0.62
France	1.19	1.72
Sweden	0.63	0.61
Canada	1.35	0.63
Austria	0.59	0.64
Malaysia/Singapore	0.43	0.37
Yugoslavia	0.86	0.02
Belgium	0.45	0.11
Others	1.27	1.50
Total	55.70	44.50

Under the Public Notice number 2-ITC (PN)/79 dated 3rd January, 1979, new product group K-7(TI) covering mixed/blended silk goods containing less than 50 percent but not less than 20 percent natural silk by weight was brought under perview of the Central Silk Board for preshipment inspection.

During the year 1978-79, 1.44 million kgs. of different qualities of silkwaste inclusive of the inferior wastes not locally utilised like local basin refuse, noils, noil droppings, cocoon and floss throwsters waste were exported and earned foreign exchange of Rs. 34.92 million as against Rs. 14.44 million during preceding year. The export target of Rs. 20 million for silk-waste for 1978-79 has been crossed by 74.6 percent.

Itemwise export performance of the sericulture industry during 1978-79 against the target set is summerised in the following table.

(Rs. in million)

m	Target for 1978-79	Actual Exports during 1978-79	Percentage increase over the target
. Silk Fabrics	350	401.15	14.6
2. Mixed Blended	—	0.04	—
3. Silkwaste	20	34.92	74.6
4. Noil Yarn	—	0.54	—
otal	370	436.65	18

ding with South Asian ntries

an exports to South Asian count- Afghanistan, Iran, Pakistan, Bang- sh, Nepal, Sri Lanka, Bhutan and dives during the year 1977-78 unted to Rs. 3,243 million as against Rs. 3,191.80 million during 1976-77. While exports to Iran and Bangladesh during 1977-78 declined (marginally in the case of Bangladesh and substantially in the case of Iran), these increased in the case of all other countries. Decline in exports to Iran is mainly accounted for by the fact that there have been no exports of cement to that country during 1977-78 and because of a steep fall in India's exports of iron and steel during 1977-78. The balance of trade with the countries of this region during 1977-78 has been favourable to India except in the case of Iran.

A new Trade Agreement between the Government of India and the Government of the Democratic Republic of Afghanistan was signed on June 24, 1978. This Agreement, valid for a period of one year, places trade between the two countries on the basis of trade in freely convertible currencies through normal banking channels. It replaces the modified barter system that had hitherto guided trade between the two countries. Exports to Afghanistan during 1977-78 were of the order of Rs. 292.8 million and imports during the same period were of the order of Rs. 214 million.

Trade with Iran is presently governed by the 1974 Trade Agreement valid till December, 1979. Under this Trade Agreements, the two Governments have undertaken to explore all possibilities for expansion and promoting of trade between the two countries on the basis of mutual advantage, keeping in view the requirements of each other in the content of development of their economies.

A Joint Indo-Iranian Commission was set up in 1968 to explore, inter-alia, the possibilities for securing expansion in mutual trade and to take appropriate decisions and make recommendations to this end. The Sixth Session of the Indo-Iran Joint Commission was held in New Delhi from September 6-10, 1977.

India's imports from Iran during 1977-78 increased to Rs. 5,484.40 million from Rs. 5078.70 million in 1976-77. India's exports to Iran during 1977-78, however, declined to Rs. 1,165.90 million from Rs. 1,445.80 million during 1976-77.

A Trade Agreement was signed between India and Pakistan which came into force on January 23, 1975. This initially provided for state trading between the two countries. As a result of discussions between the Foreign Secretaries of India and Pakistan in May 1976, the private sector was also allowed, with effect from July 15, 1976, to participate in trade between the two countries. The 1975 Trade Agreement lapsed on January 22, 1978. Talks were held in May, 1978 in Islamabad and again in October, 1978 for formulating a new Trade Agreement. Pending finalisation of the Trade Agreement, the trade on Pakistan side would continue to be conducted through public sector agencies but on the Indian side both private and public sector agencies would participate in such trade.

Indian exports to Pakistan during 1977-78 amounted to Rs. 132.20 million and imports during the same period were of the order of Rs. 239.10 million.

India's trade with Nepal is regulated by the Indo-Nepal Treaties of Trade and Tranisit and the Agreement for Cooperation to Control Unauthorised Trade 1978. The Treaty of Trade came into force on March 25, 1978 and would remain operative for a period of five years. The Treaty of Tranisit came into force on March 25, 1978 and would remain operative for a period of seven years. The procedures to be followed for Nepal's traffic-in-transit through India under the Treaty will considerably facilitate the traffic-in-transit for Nepal's cargo. The Agreement of Cooperation to Control Unauthorised Trade came into force on March 25, 1978 and would remain operative for a period of five years. This agreement reconfirms the right of both countries to pursue independent foreign trade policies and the need to ensure that the economic interest of either country are not adversely affected through unauthorised trade between the two countries. It has been agreed by the Government of India to provide overland routes to Nepal for her trade with Bangladesh as also for Nepal's countries through B

Exports to Nepal c
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Trade relations be
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In June, 1968, a In
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The sixth meeting of
on Economic Co
Indo-Sri Lanka Joi
mission was held in
1978.

The President of Sri
in October-Novem
discussions were
President of Sri

Commerce Minister. In pur-
of these discussions, a delegation
i Lanka led by its Minister for
and Shipping visited India in
er, 1978. Detailed discus-
elating to trade and co-
on were held with the visiting
on. It was agreed by India to
additional tariff preferences to
commodities of export interest
Lanka. It was also agreed to
the import of certain consumer
om Sri Lanka upto limits to be
d.

d discussions were held on the
f encouraging participation by
the setting up of joint ventures
Lanka. It was also agreed to
buy-back arrangements for
i Lanka joint ventures based in
anka concerned with the
cture of industrial products
d in India such as cement,
ceutical formulations based on
of bulk drugs from India
rubber, PVC rubber, belting,
crocibles of higher sizes,
eric acid and aluminium.

also agreed to increase the
special allowance for Indian
visiting Sri Lanka from Rs.
400 per visit once a year.

as no formal trade agreement
Maldives. Indian supplies to
s aim at meeting the re-
nts of tourism and the fishing
which are the mainstay of the
an economy. The State Trading
ution of India '(STC) has been
o set up a special cell to cater
eeds of Maldives. A delegation
STC also visited Maldives to-
the end of October, 1978.

Industrial Growth and Diversification

Rapid Development of National Highways

The Union Ministry of Shipping and Transport has drawn up a massive programme for the development of national highways during the current financial year. Out of a total outlay of Rs. 1200 million for roads, Rs. 875 million have been allocated for national highways. This is Rs. 55 million more than the revised estimates of Rs. 820 million last year.

The preservation and maintenance of 29,016 kms long national highways will cost Rs. 273.5 million. This will include repairs, surface renewals and share for maintenance of urban links. The total expenditure on development of national highways since the inception of the scheme in 1947 to March 1979, is likely to be Rs. 7950 million.

A sum of Rs. 30 million has been earmarked for grant of loans to States and Union Territories for continuing works of Inter-State or economic importance for promotion of communication facilities. Nearly Rs. 467.5 million are likely to be spent on continuing works which comprise 30 major bridges and 1,070 kms of new roads. These are expected to be ready by the end of the current financial year. Besides, 530 kms of existing roads will be improved.

Roads in sensitive and strategic border areas will cost Rs 156.5 million. Nearly 800 kms of road will be improved and developed to provide road linkage to outlying areas of north and north-eastern borders for their socio-economic development.

A provision of Rs. 10 million has been made for field work on some of the research and development schemes which have a direct bearing on design, construction and maintenance of road facilities. In all, 19 research and development schemes have been drawn up to find solutions to road problems and effect improvement in the fields of road traffic and transport engineering.

A sum of Rs. 131.4 million is to be transferred to the Central Road Fund for expenditure on development of roads in the States and Union Territories. A sum Rs. 70 million has been set apart for other schemes which include road and bridge works of national significance and loans to States for purchase of machinery for central road works.

Capacity Expansion of Cement Corporation

An inter-ministerial group comprising officers of the Union Ministries of Industry, Energy, Railways and Planning Commission, is being set up at the behest of Mr. George Fernandes, Union Minister of Industry, to speedily work out the details for the implementation of a short term as well as a ten-year plan for the Cement Corporation of India. (CCI). The Corporation proposes to augment its present installed capacity of 0.8 mt per annum, which is only three percent of the total capacity in the country, to 18.97 mt by 1988-89, at a cost of about Rs. 10,180 million.

Cement, being a vital component in developmental projects, the Union Ministery of Industry has launched a compaign to augment its production and availability. Mr. George Fernandes, addressing the officers of the concerned ministries, emphasised the need to ensure that linkages with railways and coal production were clearly established so that inputs for the expanded production capacities of CCI were made available. It was also necessary,

the Minister said, to work out a rational marketing and distribution pattern which would help in optimum use of the transport system. The expansion programme of the CCI envisages upgrading of technology in existing units at Kurkunta and Mandhar, providing precalcinator at Akaltara, Neemuch and Yerraguntla, setting up of five mini cement plants, increasing production capacities at Yerraguntla, Kurkunta, Neemuch and Tandur, setting up of nine additional cement plants, and setting up of seven grinding units at Bombay, Madras, Goa Calcutta, Vizagapatnam, Delhi and Jammu. The grinding units will be fed by clinker units of the Cement Corporation of India.

The consumption of cement in India is 29 kg. per capita as against the average of 155 kg. per capita. demand of cement is expected to crease considerably due to the creased tempo of developmental and house-building activities people in both the urban and areas. The projection of demand the next ten years has been comp as under:

(In million tonnes)

	Internal	*Export*	*Total*
1978-79	22.40	.5	22.45
1979-80	24.19	.5	24.69
1982-83	30.47	.5	30.97
1987-89	44.78	1.5	46.28

The present installed capacity of CCI is : Mandhar (380,000) tonnes, Kurkunta 200,000 tonnes, and Bekajan 200,000 tonnes per annum. The following projects of the CCI are under execution :

Rajban	200,000 tonnes
Akaltara	400,000 tonnes
Neemuch	400,000 tonnes
Yerraguntla	400,000 tonnes
Tandur	1 million tonnes
Adilabad	400,000 tonnes

Thus by 1988-89, the total installed capacity of CCI units will be 18.97 m. tonnes. The estimated cost of the expansion programme of CCI is Rs. 10,180 million.

At the end of the Sixth Plan period, the country is estimated to need a capcity of 41.18 m. tonnes, But the capacity expected to be built up by then is 34 m. tonnes, thus leaving a shortfall of 6.89 m. tonnes, At the end of the Seventh Plan, the capcity required is expected to be 70.60 m. tonnes but the expected capacity is 60 m. tonnes, thus leaving a shortfall of 10.60 m. tonnes.

Modern Floating Steel Dry Dock

A modern floating steel dry dock is to replace the existing RCC dry dock at Kandla Port. Work at the new dock has already started and it is likely to be ready by August 1980. Estimated to cost Rs. 49.6 million, it will have a lifting capacity of 2,700 tonnes. The new dock will also have adequate repair facilities for vessels.

The construction of the new dock became necessary as the existing floating dock and its equipment have outlived their utility and are beyond economic repair. Its lifting capacity has also fallen from 800 tonnes to 400 tonnes with the passage of time.

The Port will also have a 30-ton b lard Pull Tug to meet its urgent n as also of the Salaya Dock. It will Rs. 40 million. The tug is expected be commissioned by April 1980.

At present, only two 15 tonnes tugs operating at the Port and these quite inadequate to cope with increase in traffic. During the last f years, the traffic has gone up from million tonnes to 5.87 million ton an increse of over 79 percent.

Semi-conductor Complex to go on Stream

The Semiconductor Complex at S Nagar in Punjab will start assembly Large Scale Integrated (LSI) circ early next year. The Plant is expec to be in full operation by the end 1980. In the initial stage, the comp will engage itself in production Research and Development (R and of LSI, Solid State display devices

e devices. These products
cation in data processing, tele-
cation, instrumentation and
defence and aerospace and
electronics such as auto-
lectronics, pocket and desk
s and electronic watches.
ufacture of these in bulk,
rst time in the country, will
jor landmark in the growth
electronic industry in the

l capital investment on the
xpected to be Rs. 240 million
foreign exchange component
) million.

nplex is expected to provide
ent during the first five years
500 direct workers, 100 indirect
and 150 scientists, engineers
er management staff. Further
ent will generate commensu-
n the growth of the project in
n the development of electronics
region. There is also a large
l for ancillary industries in the
ale sector, both to serve as sup-
this complex as well as to make
using the devices manufactured
complex.

ndustry is non-polluting, and
e steps have been taken to ensure
uents, if any, will be chemically
before being discharged from
mplex. The complex will have
ean rooms; ultra-pure water
and computer control test sys-
assure repeatable high yields
liability of devices.

and D wing is planned in the
x to inculcate the latest techno-
f different processes and to design
n-built large scale integrated cir-
An Application Laboratory is
set up to assist small-scale and
m scale industries in overcoming
problems in using LSI devices.
It will also assist the users by developing systems/products using the LSI devices manufactured by SCL.

Negotiations for selective collaborations are going on, with simultaneous action for the procurement of the equipment required for Phase II of the project. For LSI design and manufacture of mask, strong interaction is proposed with Tata Institute of Fundamental Research and the public sector Bharat Electronics Limited.

The Regional Computer Centre of the Department of Electronics will be located at the complex.

NMDC Intensifies Iron Ore Investigations

The National Mineral Development Corporation (NMDC), a public sector undertaking under the Union Ministry of Steel and Mines, has intensified investigations for the iron ore reserves located in the Bababudangiri Range of Karnataka. During the first phase of the investigations, completed by the NMDC in March, 1978, about 1,600 million tonnes of low-grade magnetite iron ore were estimated to be available in the three major blocks situated in one part of the Bababudan Range.

The second phase of the detailed investigation has now been launched in the largest single block of ore occurrence at Attigunidi, which is estimated to contain about 800 million tonnes of iron ore.

The iron ore deposits of the Bababudan Range are of a nature similar to that of the adjacent Kudremukh. Since the reserves are larger, it is felt that these deposits hold the prospects for development on an even larger scale than Kudremukh, although on similar technical lines. The total magnetite iron ore resources in the entire Bababudan Range are now being placed at about 3,000 million tonnes and it, therefore, offers the feasibility for development of massive mining projects with corresponding economic advantages to the region and to the State.

Investigation of the iron ore resources of the Bababudan Range in the chikmagalur District was entrusted to the NMDC and the first phase of the exploration started in June, 1976.

Besides the normal investigation work involving geological exploration, ore beneficiation tests and engineering studies, one important feature of the present investigations is a detailed study on the present ecological balance of the region and the measures which would have to be taken to eliminate or minimise disturbances to the eco-system arising out of the tapping of the huge ore deposits. These studies are proposed to be undertaken with experts from various national institutions through a scheme sponsored by the Department of Science and Technology. A research project on the eco-system of Bababudan sponsored by NMDC is currently being studied by the Department of Science and Technology. Eco-studies have been accorded priority since the Babadudan Hills form a geographical landmark of the area, which also has important coffee estates in the lower regions below the mining zones.

Ensuring Supply of Medicinal Plants and Drugs

The Development Committee for Medicinal Plants and Drugs has been expanded with 11 additional members. The Committee was initially constituted by the Union Ministry of Agriculture and Irrigation in January, 1977 with Inspector General of Forest and ex-officio Additional Secretary to the Government of India as the Chairman and 18 other members. The new mem-

bers are :—representatives from Directorate General of Technical Development; Department of Chemicals and Fertilisers; Basic Chemicals, Pharmaceuticals and Cosmetics Export Promotion Council; Office of the Development Commissioner, Small Scale Industries; Indian Council of Medical Research and Kerala Pharmaceuticals; Directors of Regional Research Laboratories, Jammu; Jorhat, Assam; Bhubaneshwar; and Indigenous Medicine, Kerala and Assistant Inspector General of Forest.

The function of the Committee is to consider the raw material supply position to the existing industries, identify the difficulties in ensuring sustained supply and recommend suitable measures for their expansion. It will also recommend programmes for the creation of plantations based on the present and prospective needs of raw materials; developmental/ research programme in respect of these plants and drugs.

Policy for Electronic Watches

All electronic watches made for the domestic market will be marketed and serviced by the Hindustan Machine Tools (HMT), at least for the first five years, according to the industrial and technology policy for the electronic watch industry, presented in the Lok Sabha recently.

For the assembly of watch modules or even complete electronic watches, the production by HMT will, however, be the minimum required for technical and economic viability. For the rest of its sale requirement, HMT will depend on existing assemblers of electronic watches, new small scale units and State Electronics Development Corporations (SEDCs).

While the four basic electronic components for the electronic watch, viz the large scale integrated semiconductor circuit, the display, the special guartz watch crystal and the special battery will have to be imported in the initial stages; the case in which the module is enclosed and the mechnical piece parts involved in the finished watch should be made indigenously from the beginning. The small scale sector can capably assist in the area relating to manufacture of case and mechnical parts. The industrial structure for watch production needs to be organised in a way to ensure precision and quality at a low cost.

The Government has also decided that the Electronics Trade and Technology Development Corporation (ETTDC) will be the single agency to import basic electronic components to ensure uniformity in terms of technical specifications. ETTDC will sell the components to HMT, the existing electronic watch manufacturing units, small scale units and SEDCs. As a result, the maximum advantages of the economies of scale can be realised. Through appropriate pricing of the components, the Government will ensure that the prices of watches assembled out of them do not adversely affect the production of the mechanical watch industry which is more labour-intensive and on which substantial investments have been made.

The single point import of standardised components will also enable the indigenously made equivalents to be substituted smoothly as and when they become available. A time-bound programme for import substitution of electronic watch components is being drawn up with the target of complete supply within a five year period.

Towards Technological Self-Reliance

The Union Minister for Petroleum, Chemicals and Fertilisers, Mr. H. N. Bahuguna, recently called upon the large scientific community in the cou recognise their obligation and tial and accept the challenge to country towards technologic reliance and self-confidence.

The Minister, who was addres Seminar on 'Transfer of Tech Role of Multinational Corpo organised at New Delhi by the Association for the Advancen Science, said that while the should be prepared fully to ap what international technology offer and to absorb it, if shou get ready to develop its own tec in many intricate areas, parti when international technology n be available.

The Minister said that India ha foremost in welcoming intern cooperation in design develc as well as in technology and trial units in the country had re assistance from many countries world. Her refineries were estal with the help of multinational com and collaboration was invited international companies to es major plants in petrochemicals, lisers and metallurgical indu But, like many other countries, had found that assistance from national corporations was ava only in a limited way and that in c areas there was considerable relu on the part of international comp to come to India.

Unlike many nations of Africa Asia, India had developed industrial and technological base. industrial policy of 1956 clearly emphasis on industrialisation Government itself was involved ir industrial technology sector in a n way through various industries w are either entirely under Governi ownership or in which the Gov ment was the major investor. T

ries included atomic energy, steel, fertilisers, petrochemicals, um refining, etc. and repre- fresh technology areas.

Minister said that the develop- of technically skilled manpower een done in a balanced manner ich man-power had been increased y. The Government had also shed a large number of insti- s for carrying out industrial ch besides the research efforts of establishments as Atomic Energy ission, the Space Commission he Defence Research Organis- s. A National Research Develop- Corporation had also been con- ed to arrange for trasfer of ology to manufacturing enterprises National Laboratories.

Minister said that satisfactory ology transfer could take place igh a long process of educ- , training, research and institution ing. Evidence of true technological rption could be accepted only objectives of quality, cost quantity in economic production oods over an extended period of were realised.

erring to the role of multinational orations in the area of technology sfer, the Minister said that the tinational corporations with their netary resources and technological ls had attained enormous power controlling products in many eloping countries. The developing ntries have realised that true elopment and self-reliance can e place only when there was easure of industrialisation and hnology transfer. India believed international cooperation for mutual nefit and development. In key as, however, the country had to ve adequate control over its in- strial activity. Thus, it is sought to be ensured that predominant role in these activities was given to the Indian public sector.

India had attained considerable expertise in industrial manufacture and technology development. It was time that her capability in technology improvement was clearely expressed and that she also helped other developing countries in the matter of technology trasfer to help them realise their aspirations regarding industrialisation and production of essential goods.

Capital Assistance to New Entrepreneurs Liberalised

The Industrial Development Bank of India (IDBI) has liberalised the Seed Capital Scheme it has been operating since December 1976 to assist new entrepreneurs in setting up enterprises in the medium scale sector, with project costs up to Rs. 10 million, by supplementing the promoter's contribution to the extent of Rs. One million or 10 percent of the project cost, whichever be lower. The scheme is being operated through notified State Industrial Development/Investment Corporations.

The main liberalisation covers a broadening of the definition of the term new entrepreneurs for purposes of eligibility under the Scheme. Hitherto, this term was defined as: one professionally qualified such as a technician entrepreneur or one qualified or experienced in industrial management or other discipline(s) of importance for starting and implementing the project. The new definition for eligibility is that a "new entrepreneur" should be one :

(i) who is technically qualified or otherwise considered suitable;
(ii) who has a worthwhile project technically feasible and economically viable;
(iii) who should possess or have acquired or secured technical know-how; and
(iv) who has the ability to set up and run the enterprise, but who lacks resources to bring in even the normal promoter's contribution.

Thus, the term 'new entrepreneur' would now cover, apart from technically qualified entrepreneurs, others not necessarily qualified but who have acquired or secured technical know-how. A prerequisite naturally is that the entrepreneur should have a worthwhile project technically feasible and economically viable. Also, the entrepreneur should have the ability to set up and run the project. Naturally also, the entrepreneur should lack the resource capability to bring in the normal promoter's contribution.

As to whether an applicant entrepreneur has or shows entrepreneurial potential, the judgement will naturally be of the Bank or, where so arranged, of its agent through which the scheme is operated.

This broadening of the definition of the term 'new entrepreneur' for purposes of eligibility is in conformity with the avowed objective of the scheme to promote and disperse entrepreneurship.

Successful entrepreneurs in the small-scale sector, who propose graduating into medium-scale industrial sector for the first time have also now been made eligible whether they do so by setting up a new enterprise or by undertaking expansion/diversification schemes.

Further, the scheme is no longer restricted to projects located in backward regions or to projects in the priority sector, All projects, which are eligible for financial assistance from IDBI, either directly or through refinance, have now been made eligible.

Also, the requirement of matching

contribution is not any more related to the contribution which the promotoer himself makes. The contribution mobilised by him from relatives, associates and friends will now also be reckoned for purposes of matching contribution, so, however, that the promoter's own contribution ordinarily forms at least 20 percent of the accepted minimum level of the promoter's contribution.

IDBI hopes that these liberalisations will go a long way to make the seed capital scheme more accessible to deserving prospective entrepreneurs.

Science and Technology

NPL Develops Crystal Puller

A versatile crystal puller for growing single crystals of materials having high melting points has been designed, developed and fabricated by the National Physical Laboratory (NPL), New Delhi. The device utilizes Czeochralski technique of growing single crystals from the melt. In this technique the material to be grown as a single crystal is held in molten state near its melting point. A seed crystal is dipped into the melt so that crystal growth takes place around the seed. The seed is rotated and pulled up slowly. Good quality crystals of large sizes can be grown by this technique.

Perfection of some of these crystals has been tested on the triple crystal X-ray diffractometer, another sophisticated instrument designed and developed at NPL. With this instrument, absolute rocking curves corresponding to X-ray diffraction from a desired set of lattice planes can be recorded. From the shape of the rocking curves particularly from the width of these curves, perfection of the crystal can be evaluated. The crystals grown with the NPL crystal puller show fairly big regions which differact X-rays in the same manner as the nearly perfect dislocation-free single crystals of silicon. The half-width of a typical diffraction curve of KCI crystals grown at NPL has been found to be 16 seconds of arc which is very close to that expected from nearly perfect single-crystals, and in one of the samples, half-width of just 9 seconds of are has been observed. Some of these crystals give rocking curves having a width of 24 seconds of arc over the entire area. This is about two orders of magnitude better than that reported so far.

With further improvements in this puller, viz. addition of an automatic temperature control and of facilities like a 25 KW output RF generator, presently being planned, it will be possible to use the puller to grow single crystals of oxides like garnets and tungstates also.

Fuel From Biomass

The National Steering Committee on Biomass has approved research proposals on the microbial production of methanol from methane and ethanol from cellulosic residues. Through microbial fermentation of biomass or agricultural residue, liquid and gaseous fuel can be produced at a relatively low cost. The fuel can be used for domestic energy, transportation and small industries. The Department of Science and Technology has funded an all India Co-ordinated project on Biomass Technology.

The Committee is considering proposals relating to exploration of potential energy crops, especially the latexbearing plants. The publication of a perspective status paper on the importance of alcohol as a petroleum substitute has been approved. This would also bring certain educational and informative social implications of b version and utilisation of

The Steering Committee tuted last year under th ship of the Secretary, De Science and Technology, various issues in detail an a national policy on u biomass. In addition, the will examine, identify and R&D programmes relatir duction of fuels from bi

Helicopter Rotor Bl Testing

Dynamic testing of rotor their vibration characteristi cturally important for t design of modern rotors. The National nautical Laboratory, Bangalo has decided to embark on a p to develop the necessary te lities with the associated instrumentation required fo pose.

Initially, a complete set up for helicopter rotor blade models ing them for their vibration teristics was developed. required electronic instrun for this rotor dynamics rig, s frequency modulated telem tem for transmitting and vibration signals sensed on th a tracking filter to sense any harmonics in the measures various types of exciter sys exciting the rotating bla have been developed.

Some preliminary studies have undertaken using the above to measure vibration frequencie mode shapes and damping Studies relating to critical op conditions beyond which roto motions would be unstable a

ken. The required models to e the actual helicopter rotor are designed and fabricated at tself. Although the present stue for the hovering case, intensive ity studies are being carried out nd the use of the rig for forward conditions. As a result of these , it will be possible to specify quired stiffness and inertia pro- of the blades for the desired ing conditions. These studies in would make it easier not only to the rotor blades, but also to orate new concepts in the design,

Standards Published SI

Standards Institution (ISI) ublished the first revision of an n Standard specification for baryor chemical industry and oil-well ng (IS : 2881:1978) which prescriequirements and methods of sampand testing for the material commly known as barytes, intended for preparation of barium compounds for oil-well drilling.

tes, the sulphate of barium, also wn as 'heavy spar', is extensively d in Andhra Pradesh and Rajas. It is one of the major minerals export amongst non-metallic min. The demand for barytes is ily for paints and oil-well drilling. ll quantitites are also used in the nical industry for preparation of um compounds and in rubber and osive industry. The paint industry s mostly the best grade white erial.

s standard was first published in 4. It is being revised in the light of experience gathered in production consumption patterns of the erial during these years. In the sion, following major changes e been affected:

The material of Grade 1 shall have two qualities, namely, Quality A and Quality B; and the specification for the material of Grade 1, Quality A is the same as that of Grade 1 of the original version of the standard except that the limit for calcium and magnesium has been lowered to 1.0;

(b) Performance test has been prescribed for the material of Grade 2;

(c) For the material of Grade 2, barium sulphate content has been lowered to 90.0, the limits for impurities have been precsribed and changes have also been made for requirement for fineness;

(d) One more method, namely, insolubles minus silica method, has been incorporated for the determination of barium sulphate; and

(e) Iron and aluminium limits are being given individually in place of a mixed oxide limit.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Indian Standards Institution has also published an Indian Standard (Method of measurement of lamp cap temperature rise (IS : 8914-1978), which specifies the standard method of measurement of lamp cap temperature rise which is to be used when testing lamps for general lighting services for compliance with IS:418-1978-Specification for tungsten filament general service electric lamps (third revision). It also describes the test lampholders to be used for lamps fitted with E27, E40 and B22/25x26 caps. The temperature rise of the lamp cap of a tungsten filament lamp is, in practice, very dependent on the mounting of the lamp and the condition of the cap. For this reason, it has been necessary to define a method of measurement based on the use of a standard test lampholder.

Compared with the measurement of the temperature rise of the bare lamp cap, the measurement of the temperature rise of a standard test lampholder has the following advantages:

(a) A better approximation to actual operating conditions;

(b) Improved reproducibility, as there is less influence from lamp cap material, finish and surface conditions (which also have little influence in actual operating conditions);

(c) Levelling of the temperature of various parts of the cap, giving a better over-all picture of the influx of heat from the lamp to the fittings and

(d) Reduced duration of measurements, as the thermocouple is permanently fixed to the test lampholder.

Indian Standards Institution has also published Indian Standard guidelines for co-ordination of dimensions in shipbuildings: Part II Glossary of terms, IS:8712 (Part II)-1978 which covers terms and definitions relating to dimensional co-ordination in shipbuilding. The rationalization of traditional shipbuilding methods and the increased use of prefabricated assemblies necessitates the utilization of standardized components wherever possible. It is essential to co-ordinate the dimensions of these components and of the assemblies in-incorporating them.

It is envisaged to introduce the system of dimensional co-ordination similar to that prepared for land use. The system will give module sizes, controlling dimensions, recommendations for co-ordinating spaces, etc. for use in dimensional co-ordination.

In the adoption of dimensional coordination, the fullest possible clarification of the concepts involved and

terms expressing those concepts is essential and this Indian Standard is intended to promote such understanding and avoid any ambiguity.

Indian Standards Institution has published the first revision of an Indian Standard specification for mobile library van (IS:2661-1978) which covers the basic requirements of a mobile library with regard to its dimensions and layout of the interior. With constant and rapid advances in all fields of human knowledge, to lead a successful life, one has to keep oneself constantly informed of latest developments. This continued self education is possible only through use of libraries. Library service has therefore attained a vital importance these days for a civilized citizen. But the location of a library cannot favour all concentrations of population in big sprawling cities or in the countryside. In many cases the size of the community does not justify, or the financial inability of the library authority prevents the setting up of a branch of the library. In such cases a mobile library acts as the extension arm of the library which takes the library service to those who find it difficult to reach the library, especially women and children, who are less mobile.

This standard is intended to provide necessary guidence in regard to the requirements of a mobile library which is a power driven vehicle on four wheels and is either with a fixed engine or is pulled as a detachable trailer. The requirements specified in this standard relate to the bus body (and not the engine, whether fixed or detechable) in Indian conditions.

The specification is meant for mobile library vehicles having book shelves inside the vehicle as opposed to shelves fitted on the exterior of the bus body.

This standard was first published in 1964. In view of the appearance of new materials and techniques the Sectional Committee has felt the need to revise the standard. In this revision, the layout of van has been modified to avoid practical difficulties encountered by the users. The capacity, the constructional aspects and service features have also been revised to provide for additional facilities to users.

Towards Self-sufficiency in Electronics

The public sector undertaking, Electronics Corporation of India Limited (ECIL) was set up on April 11, 1967, as an offshoot of the Bhabha Atomic Research Centre, Trombay (BARC) with a view to achieving self-sufficiency in electronics. ECIL has since proved the commercial viability of the nation's own technological resources. Having started eleven years ago with five production divisions and a sales turnover of Rs. 0.9 million, ECIL has rapidly grown into an electronics complex with 17 production divisions manufacturing 250 different products with an impressive sales turnover of around Rs. 300 million.

ECIL's innovative manufacturing methods have enabled the production of pace setting products in the minimum of time. The complex and demanding design requirements of the Indian electronics industry are being met by the outstanding design talent available within ECIL. This unique blend of design and manufacturing capability coupled with quality, cost and time consciousness, has yielded a long series of outstanding achievements in many fields of national endeavour.

Electronics has revolutionised the communication networks all over the world. It is estimated that the communication equipment produced in India over the next five years would be roughly Rs. 10,000 million. ECIL has dev... capabilities in its differen... to undertake design, developmen... manufacture of communication e... ment. ECIL contributes to the ... of communication its antennae, ... vision receiver sets, HF & VHF ... receivers and microwave test e... ment.

The 97 ft. antenna at the O... Communiation Service, Dehra... which was fabricated and erected ... ECIL has given India a major ... munication link with the rest of ... world. ECIL played a significant ... in India's Satellite Instructional T... vision Experiment (SITE) by supply... the entire requirements of spe... built antennae, front and conver... and 60 cm TV receiver sets.

The current range of ECIL microw... antennae includes beam and pa... reflectors, tropo and LOS anten... for radar tracking, satellite co... munications, microwave terrestr... links etc., Recently, a modern anten... test facility has been commissio... to checkout the various microw... antennae designed by ECIL. T... test range was completely design... integrated and commissioned by EC... engineers. Since its commissioni... various antennae have been desig... in the range of frequencies from ... MHz to 10 GHz. The test faci... though essentially meant for EC... is also available to other users on ... mand. ECTV, India's first solid-st... television receiver is a national br... leader. The unique modular constr... tion makes ECTV easily service... The completely transistorised EC... receivers have gained popularity ... the country's masses. Recently, EC... has also introduced in the marke... low priced TV set known as 'Enco... It is a solid-state multichannel 4... cm. screen TV with a dual-cone ... speaker consisting of a tweeter a...

produce perfect pitch and

o TV receivers, ECIL also
; Closed Circuit Television
surveillance, traffic control,
communication, entertain-
ne, education and research.

there is only one main
r of transreceivers in the
ring primarily to the needs
ECIL has been licenced for
ture of two way communi-
ment and also certain other
ion products and entered
ication field with a 5W HF
r and a 1W VHF Walkie
er a series of detailed inter-
h prospective users, ECIL
to concentrate its develop-
s on the equipment needed
ike the Union Ministry of
airs, Department of Civil
Indian Meteorological De-
nd Ministry of Railways who
lised communication equip-
medium volume. ECIL's
rough the years 1979-80,
ould be to establish itself as
upplier of specialised com-
n equipment to the above

ng the demand of the above
IL is now introducing in the
1W, 12W and 25W VHF
vers both in the low and high
quency bands. The mode of
of these transreceivers is
An adjustable squelch level
ed to improve opertional per-
and to conserve battery.
crystal controlled channels
lable. These transreceivers can
ated on rechargeable Ni-Cd.
or on external DC supply.
accessories like antenna, battery pack, battery charges, mains power supply, hand set, carrying case etc. are provided depending upon the type of transreceiver and its application.

The Personal Rescue Beacon Transreceiver forms part of a Search and Rescue System for locating a crash survivor on land or sea. The Beacon radiates a distress signal which a search aircraft could pick up and home onto. The unit is quite rugged and splash proof and can be operated under stringent environmental conditions.

ECIL has also introduced a general purpose VHF receiver in the range of 20-300 MHz capable of catering to and processing amplitude, frequency and pulse modulated signals, as well as continuous wave signals. This receiver is normally used for monitoring purposes.

ECIL has designed and fabricated a Radio Paging System for selective one-way contact within a radius of 1.5 km. Contact can be made with upto 90 persons anywhere within the reception area. The person to be contacted carries a small paging receiver in his pocket which receives a beep signal on being paged and he is expected to go to the nearest telephone to get the message from the control room. The system can be used either in the open areas or multi-block buildings. The receiver operaties on a rechargeable Ni-Cd Battery.

Against the special requirement of the Indian Navy, ECIL developed a Life Boat Radio Station operating at the 3 spot frequencies of 500, 2182 and 8364 KHz for communication of distress signals from a life-boat to any rescue ship or aircraft. This is of rugged construction and portable with a weight of 18 Kg. The unit has fibre glass top and bottom covers. For effective communication in the forward areas, ECIL has designed a specialised Radio Message System based on Continuous wave transmission and reception, operating in the frequency band of 2-12 MHz. The system can be effectively deployed as a static set during normal conditions of operation and can easily be converted into an opertional radio set during emergency. In addition to operation on batteries, the system can also be operated with the help of a hand generator.

ECIL has entered in the UHF range and has just completed the development a of a 500 mW hand held transreceiver weighing less than one Kg. The frequency of operation is 380-470 MHz. The unit is of single channel, simplex type with adjustable squelch level.

To test terminal equipment like teleprinters, relays and for monitoring telegraph and low speed data signals in the speed range of 25-330 bands, ECIL has designed the Test Set Telegraph System. The system consists of a Telegraph Distortion Measuring set TD-747, which caters for signals with 7-13 elements in each character and the Telegraph Signal Generator TG 713 which provides 5 and 8 unit code signals. Test messages or single character can be transmitted at different stop lengths and predetermined level of distortion.

To maintain various microwave communication links, ECIL's test equipments like the frequency metres, signal generators and power meters, play a vital role in the country's communication net-work. □

Regd. No. D

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1—9, 1979
Damascus International Fair, Damascus (Syria)	July 4—23, 1979
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979.
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25—29, 1979
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November—December, 1979
Indian Exhibition, Manila (Philippines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

Highlights

econd Satellite Launched

econd satellite, "Bhaskara" ınd built by the Indian Space Organisation (ISRO), was into earth arbit at 4 p.m. June 7, 1979 from a Soviet ne. The 44 kg experimental contains sophisticated instru- carrying out remote sensing ıts over India. The satellite ning normally according to the data received at the three ıtions set up in India. Bhaskara's ıts will be useful in the fields of hydrology, snow-cover and t, geology, soils, land use and face studies.

Assist in Nigerian Machine mplex

n Machine Tools (HMT), a ent of India undertaking, will te in a joint venture in Nigeria Nigerian Government for setting achine tools complex known as erian Machine Tools Limited'. col to this effect was co cluded in New Delhi. The implementa- ne project will commence by the une, 1979.

(*Contd. on page* 2)

Export Performance and Potential

India's Management Support to Nigerian Railways

The Indian Railways Management Team and the Task Force now in Nigeria has effected an all-round improvement in the functioning of the Nigerian Railways, according to the Chairman of the Nigerian Railway Corporation, Col. J.T. Useni, who called on the Union Railway Minister, Prof. Madhu Dandavate, in New Delhi recently, along with five other members of the Nigerian Railway Delegation.

Col. Useni paid warm tribute to the Indian Railway experts and technicians for their professional competence, efficiency, hard work and cordial relationship with the local people. The Indian Railways team, Col. Useni said, even in their short period of stay has made significant impact on the Nigerian Railways. This is reflected in more earnings, speedier movement of goods, better utilisation of wagons, proper maintenance of locomotives and other equipment and increased frequency and enlarged composition of passenger services in Nigeria.

The top management team of 36 Indian Railways experts and a task force of 398 technicians and officials was sent to Nigeria early this year to provide necessary management support to the Nigerian Railways for a period of three years.

Earlier, the Nigerian Railway Delegation met the Members of the Railway Board and had discussions on various aspects of co-operation

Drug Industry to Double its Turnover

The Indian drug industry with its resources will not only be able to increase its present annual turnover of Rs. 10,000 million to about Rs. 19,000 million by 1982-83, but will also surpass it to make more medicines available to the masses at cheaper prices. The Union Minister for Petroleum, Chemicals and Fertilizers, Mr. H.N. Bahuguna, expressed this hope while inaugurating the drug unit of the Wockhardt Private Limited at Aurangabad, recently.

Urea Production at Bhatinda Plant

Production of urea started recently at the Rs. 1900 million Bhatinda Fertiliser Project of the National Fertilisers Limited. The urea plant of the project has the annual capacity to produce 511,000 tonnes of the product.

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between the two Railways, including provision of on-the-job and training facilities to the Nigerian Railway personnel in India.

Indian Railways provide management support to the Nigerian Ra in areas like utilisation of rolling stock, passenger and goods opera infrastructure, including communications, importance of financial via and setting up of training facilities etc.

The Indian Railways team is in Nigeria in pursuance of an agree signed on October 5, 1978 at Lagos between the Nigerian Railways an Rail India Technical and Economic Services, a public sector com of the Ministry of Railways.

Indo-Swedish Development Cooperation

An agreement on development cooperation providing Swedish aid Rs. 1,106.9 million (S. kr. 580 million) to India for 1979-80 and 198 was signed in New Delhi recently.

Mr. S.O. Doos, Head of Development Cooperation, Royal Swedish Emb in New Delhi and Mr. A.G. Asrani, Joint Secretary in the Ministr Finance, Department of Economic Affairs, Government of India sig the agreement on behalf of their respective Governments.

Out of the total assistance agreed to, an amount of Rs. 553.4 million (S. 290 million) has been made available for the year 1979-80. Against an amount of Rs. 200.4 million (S. kr. 105 million) will be available general imports. This portion of the aid is untied and can be used financing imports from any part of the world.

A provision of Rs. 190.8 million (S. kr. 100 million) has been made the agreement to finance imports of goods and services from Sweden in the past, this amount will be used for import of bulk commodities capital goods and services from Sweden.

The agreement also provides for programme and project support to extent of Rs. 162 million (S. kr. 85 million). This will be used for implementation of several programmes and projects in the fields of hea and family welfare, forestry, fisheries, water resources development, formal education, etc.

The development assistance from Sweden is a grant. Sweden's aid as tance to India this year is more than Rs. 38 million (S. kr. 20 mill over last year's.

Review of Indo-Italian Trade

According to the figures released by the Italian Institute of Sta (ISTAT) for the calendar year 1978 (January-December), the Indo-It trade increased to Rs. 2,690 million from Rs. 2,190 million in 1977, reflec an increase of 24.5 percent in a period of twelve months. (The ra exchange for calculation is Rupee 1=Lire 100). The table on the page reveals the trade trends between the two countries.

(Million Lire)

India's Exports to Italy	Percentage increase/ decrease over previous year	India's Imports from Italy	Percentage increase/ decrease over previous year	Balance
19894	—	19251	—	+643
29594.2	+ 48.75	26645.6	+ 38.41	+2948.6
48633.8	+ 64.34	27578.6	+ 3.50	+21055.2
62231.2	+ 27.96	54734.9	+ 98.54	+7476.6
55563.0	— 10.71	575271.1	+ 5.06	—1964.1
124882.3	+124.76	54779.6	— 4.78	+70102.7
145134.5	+ 16.20	68665.8	+ 25.34	+76468.7
160966.0	+ 8.4	108040.0	+ 56.04	+52926.0

n the figures given above, exports in 1978 rose to 1610 million as against illion in 1977 registering a t increase. This was a ly slow rate of growth o the 1977 figures when the by 16.2 percent.

e items which showed an increase in India's exports compared to 1977, are Rs. 30 million to 56 million; ns and balsams from Rs. 3.2 Rs. 4.2 million; metalliferous Rs. 1.2 million to Rs. 5.7 her non-metalliferous ores million to Rs. 17 million ; and fats from Rs. 11.2 Rs. 16.7 million; non-fur from Rs. 0.8 million to ; non-fur tanned hides from million to Rs. 646.7 million; nitwear and hosiery from illion to Rs. 5.6 million ; silk articles from Rs. 7.9 Rs. 10.6 million; sewn rtificial and synthetic fibres .6 million to Rs. 10.4 million; otwear from Rs. 2.9 million million; parts for machines atus non-electric from Rs. 6.3 to Rs. 7.28 million; tele- cation apparatus and parts from Rs. 139 million to Rs. 193 million; works of stones and other non-metallic minerals excluding marble and alla-baster from Rs. 13 million to Rs. 23 million; soaps, glycerine and waxes from Rs. 17.5 million to Rs. 53.2 million; inks, dextrins, glues, etc., from Rs. 5.3 million to Rs. 7.0 million and other organic chemical products from Rs. 5.2 million to Rs. 11.3 million.

Items which made reappearance in India's export list include forest products for painting and tanning which were valued at Rs. 14.6 million; other forest products valued at Rs. 0.44 million; iron ore at Rs. 68.9 million; typewriters and calculation machines at Rs. 0.9 million. Amongst the new items exported in 1978 were feathers valued at Rs. 1.3 million; other fisheries products valued at Rs. 0.56 million; dyes and tans, valued at Rs. 0.9 million and motor vehicle parts valued at Rs. 0.19 million.

The exports of Indian coffee showed an increase both quantitywise (19168 quintals from 10281 quintals in 1977) and valuewise (Rs. 56 million from Rs. 30 million in 1977). The Coffee Board also sent a delegation to Italy and it was felt that the Indian quality of the coffee was readily acceptable to the Italians. According to the report, the major hurdle in respect of coffee seeds is that owing to the auction system in India, the Italian importers find it difficult to estimate the cost of imports over a reasonable period of time.

Though tea, drugs and spices did not show any improvement valuewise or quantitywise, these have a good export potential. As far as tea is concerned, there is likely to be a definite improvement once the efforts towards exporting tea directly from India to Italy take roots. So far most of the Indian tea is imported through London and Amsterdam in form of tea packaged at either of these places. Bulk tea exports to Italy are largely from Sri Lanka. The report adds that the Indian Tea Board has been kept informed of these developments by Indian Mission and already efforts are underway to promote direct exports of tea from India to Italy, expecially in the packaged form which has a higher value added. The Italian tea consumption itself has shown very significant rise in the last seven years.

Indian exports of tobacco till 1978 continued to hold their own to a very large extent. Now a significant shift in exported qualities would be required to retain the Italian market. It is gratifyng that the Indian virginia variety grown in Karnataka region has been found extremely attractive by the Italian importers who would favour it over all such varieties of tobacco imported either from other parts of the world or those grown in Andhra Pradesh. Tobacco Board has been kept informed.

With the increased production in Italian iron ore and steel industry (in 1978 turnover was •25 percent more than that in 1977), the Indian

exports of iron ore have again made a reappearance after a gap of one year in the Italian market. Now that the Italian industry is expected to pick up further, it is hoped that the Indian iron are exports will also benefit from this.

It has now been found that if India were to have exportable surplus of coal available, then Italy would be able to provide a market. This is despite the high ash content of the Indian coal.

Italy continues to provide a significant market for both Indian fabrics as well as readymade articles. There appears to be good potential for export of Indian household linen. As far as the readymade garments are concerned, the emphasis is now on increasing the value of such items as the quantity itself is limited by the quota.

For the first time, Indian leather footwear entered in the Italian market in 1977 and already in 1978 the exports have registered a growth both valuewise and quantitywise. As the quality of the Indian production improves, there is possibility of better exports especially in the categories falling under casual footwear and shoe uppers.

Italy appears to be a promising market for Indian engineering items especially in form of spare parts and accessories. Even in the field of two-wheel motorised vehicles (scooters), there is a significant market available. Market potential also exists for exports of four wheel vehicles for use at the beach, and in the countryside, Efforts are already underway to promote the exports of both these categories of the vehicles. There is also a promising market in surgical instruments, specialized handtools and electronic parts.

The Italian exports to India in 1978 totalled Rs. 1080 million against Rs. 690 million in 1977—an increase 56.4 percent. This significant improvement in Italian exports to India has reduced the balance of payment deficit for Italy over Rs. 790 million in 1977 to about Rs. 530 million in 1978.

India's significant items of import from Italy were yarns of artificial and synthetic fibres, iron and steel laminates, other steel products, aluminium and alloys, machine tools for metal and other industries, textiles and other clothing machinery, other non-electrical machinery and their parts, telecommunication apparatus and parts, precision engineering products, automobile vehicles and parts, metal mechanical products, chemical fertilizers, chemicals and pharmaceuticals products, plastic and artificial materials and synthetic resins, organic chemical products, medium oils, by-products of coal distilleries and other artificial synthetic fibres.

Indian Joint Ventures Abroad

Though originally joint venture proposals were mainly in respect of industrial joint ventures abroad, in which Indian participation was envisaged through export of plant and machinery as well as technology from India, over the last decade, a number of proposals for joint ventures in non-industrial activities such as trading, marketing and consultancy, had also been received. Apart from the complex and changing nature of the joint venture proposals that were being put forward, it also became evident that it was not always practicable to adhere strictly to the principle that the mode of Indian participation should be limited to export of machinery and technology and in some cases it was found necessary to permit cash remittances to enable Indian parties to co... towards the equity. This is state... annual report of the Departm... Commerce, Union Ministr... Commerce, Civil Supplies an... operation for the year, 1978-79.

In the light of these develop... a set of revised guidelines was i... and announced in March, 1978. ... result of this revision, the scope ... ventures has been widened a... terms and conditions for setti... joint ventures abroad consid... liberalised. The salient features ... revised guidelines are as follow...

(i) Participation by Indian p... will have to be in accor... with the rules and regula... of the country, where the pr... is to be located instead of ... minority participation stipu... earlier ;

(ii) Normally, cash remittance ... not be allowed for m... equity contribution; dese... cases will, however, be ... sidered on merits ;

(iii) Apart from Indian particip... in the form of plant and m... nery and in certain cases ... capitalisation of technical k... how fees, royalities etc, ... revised guidelines also pr... for raising of foreign exch... loans abroad and also gra... loans by Indian particip... companies ; and

(iv) Proposals for the setting ... joint ventures abroad in ... field of trading, marketin... consultancy services will al... considered.

By the end of December, 197... total number of joint venture pro... for which approval was accord... the Government to various I... entrepreneurs stood at 345. O... these, 107 joint ventures are re... to be in production/operation a...

tly under various stages of ation. Indian investment equity share capital in the entures established amounted 7 million which has been primarily through exports equipment from India. and to some extent through capitalisation of the technical know-how etc., cash remittances and bonus shares issued in their favour.

Regionwise, the largest number of joint ventures have been set up in the neighbouring coubtries of South East Asia followed by Africa. A Statement showing regionwise distribution of effective joint ventures with actual and projected Indian investment in the equity capital is given below :

(Rs. in million)

ion	In production			Under implementation		
	No. of Units	Actual Indian equity	Percentage to total	No. of units	Approved Indian equity	Percentage to total
East Asia	50	160.6	58.0	33	230.2	54.8
Asia	5	3.0	1.1	9	45.7	10.9
sia	15	7.1	2.5	23	44.8	10.7
	23	99.9	36.1	16	83.1	19.7
and America	14	6.4	2.3	8	16.3	3.9
Total	107	277.0	100.0	89	420.1	100.0

he joint ventures that have perational, the largest number he field of light engineering by textiles. Other fields in nt ventures have been set up iemicals and pharmaceuticals, crushing and fractionation, ng contracts and construction, icy, trading and marketing, ilp and paper and hotels and its.

efits that have accrued to the from the establishment of ntures by way of export of d machinery for equity con-, dividends, technical know- etc. repatriated and additional generated be these joint ven- e summarized below (as on er 31, 1978) :—

(Rs. in millon)

of plant and machinery	
ty contribution	233.0
of dividends	21.0
emittances such as technical know-how, engineering services fees etc.	46.0
Additional exports generated of plant and machinery spares and comnonents and raw material	480.0

Trading with Americas

According to the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for 1978-79, India's exports to North and South Americas during 1977-78 amounted to Rs. 7,336.3 million which represented an increase of about 15 percent over the exports of Rs. 6,389.1 million in 1976-77. While exports to USA in 1977-78 increased to Rs. 6,717.8 million as compared to Rs. 5,667.1 million in 1976-77, India's exports to Canada and South America at Rs. 447.7 million and Rs. 170.8 million respectively during 1977-78 registered a decline as compared to the previous year's figures of Rs. 494.2 million and Rs. 227.8 million respectively.

India's total imports from this region, however, declined from 12,235 million in 1976-77 to Rs. 11,104 million in 1977-78.

The United States Commerce Secretary Mrs. Juanita Kreps visited India in November-December 1978 and had discussions with the Union Commerce Minister. Bilateral issues like prospects of growth of Indo-US trade, access of Indian goods to US market, import-export policies of the two countries, multilateral trade negotiations, establishment of Common Fund, etc. were discussed. One of the suggestions mooted during the discussions was to have an institutional mechanism to promote bilateral trade prospects to help in the flow of information to exporters and to facilitate the trade promotion between the two countries. During her visit, the need for greater and free access to the US market of

Indian handlooms, handicrafts and other labour-intensive items produced in the decentralised sector with a minimum use of machinery was also emphasised.

The Union Minister of State for Commerce, Mr. Arif Baig visited Canada in October, 1978 on an invitation from Ontario Government and had discussions to promote bilateral trade between the two countries. His suggestion for establishing Indo-Canada Joint Commission to review periodically Indo-Canada trade matters was agreed to in principle by the Canadian Government. As a follow up of this, a Canadian delegation led by a Minister of the Cabinet rank, Mr. Abbot visited India in January, 1979. An important point on which understanding was reached during the Indo-Canadian consultations was the desirability of setting up of a Indo-Canadian Joint Commission at an early date to promote two-way trade. A detailed frame-work (letters) of exchange) for this purpose had been finalised and they had been sent to India's High Commission at Ottawa for obtaining the views of the Canadian Government.

An official team of the Union Commerce Ministry visited a few Latin American countries for exploring the possibilities of promoting trade and concomitantly arranging for commensurate transport facilities. Resumption of direct shipping service from India to Port-of-Spain by Scindias is an important land-mark in the development of trade and transport with Latin America.

Indian delegations comprising representatives of trade and industry like Hindustan Machine Tools, Bharat Heavy Plates and Vessels, Federation of Indian Exports Organisations and TMMA visited South American countries. A delegation from Marine Products Export Development Authority visited USA with a view to establishing contact with new importers, to sort out certain quality problems and to explore the future trend of exports of marine products to USA.

Foreign Trade Financing by SBI

According to the annual report for 1978 of the State Bank of India (SBI), the Bank's active support for the country's export promotion effort continued during the year. Total export finance provided by the Bank rose by Rs. 580 million to Rs. 3,550 million during 1978.

Promotion of high—value exports like turn-key projects, construction contracts and capital goods on deferred payment basis is an area where the Bank has been assuming a lead role. About two-thirds of all transactions under this category received the Bank's financial assistance. Some of the major Indian projects abroad with which the Bank is associated are : housing complexes in Kuwait, a grain silo project in Iraq, a power generation plant in Saudi Arabia and a road construction project in Libya.

In order to impart a further thrust to its international banking business, the Bank set up during the year International Banking Divisions at six more branches-Chandi Chowk (Delhi), Kanpur Main, Bangalore, Bangalore City, Willingdon Island (Cochin) and Amritsar. These Divisions are designed to provide expert guidance and timely assistance to exporters, particularly the smaller ones. Various market studies have been undertaken to identify and encourage export growth potential for a number of items such as handlooms, marine products and spices.

The Bank has been appointed as the sole canalising agency for the im of gold for sale to the exporter gold jewellery on a replenishm basis.

The Bank retained its premier pos in handling the country's imp which is an area of increasing imp tance in the context of the curr policy of selective liberalisation imports. The Bank also maintai its predominant role in assisting financing the country's high—va purchases like acquisition of comm cial aircraft and ships.

The Bank's policy of global expansi both in terms of physical presence a in extending its business activi pursued over the past few years, h paid good dividends. As the ne offices settle down in their respecti overseas environments, the Bank expe that their improved capabilities w aid India's foreign trade growth a greater degree.

The Bank's operating offices abro showed all-round and substantial grow in business during the year. The total resources increased by 15.5 perce and their advances and investmen went up by 24.3 percent and 45 percent respectively. The bulk of th growth in advances was registered a Bahrain, London, Los Angeles, Nassau New York and Singapore branches The growth related to the Bank commitments to Indian joint venture abroad, particualrly those in Indonesi and Malaysia which received suppor to the tune of Rs. 260 million an participation in syndicated loa to third countries. Tne exchang business turnover at the Bank's overseas offices increased sharply by 186. percent during the year. Higher sales of the Indian rupee, particularly by Bahrain and Singapore Offshore Branches to meet the needs of Indian expatriates in the Gulf region and in

st Asia, contributed significan-
s increase.

ght of the operations of the
erseas offices was the successful
loating Rate Negotiable Cer-
f Deposit for US $ 10 million
Bank's Singapore Offshore
Besides representing a land-
Indian banks in international
this issue illustrates the
nternational stature and the
for raising funds in overseas
especially to finance Indian
entures and high value
s.

nk's Representative Offices
d to make significant contribu-
providing trade and credit
ion to importers and exporters
and extending assistance to
abroad and Indian projects
s.

nk's overseas expansion plan is
mplemented at a satisfactory
lthough, in terms of completed
only four offices were esta-
during the year—a finance
y as well as a full service
in Hong-Kong, a Representa-
fice in Vancouver (Canada)
n offshore Branch in Cayman
—a few others like the Rep-
ive offices in Moscow, Lagos
r-es-Salaam and branches at
g (New York), Bristol and
gham (UK), have reached
ages of implementation. These
ew more offices are expected to
ned during 1979.

view to improving the com-
strength of the Bank's important
ant overseas offices like New
efforts are bing made to enlarge
range of operations to cover
like merchant banking, invest-
services, etc.

der to provide comprehensive
onal support to the Bank's domes-
tic as well as foreign operations in international banking and improve planning and research inputs in these areas, a seperate planning wing has been set up in the Bank's International Division.

Industrial Growth and Diversification

Urea Plant Goes on Stream

The Rs. 1900 million Bhatinda Fertiliser Project of the National Fertilisers Limited recently started producing urea. The Urea plant of the project has the annual capacity to produce 511,000 tonnes of the product.

Urea prills were produced for the first time in less than one week of the start of ammonia production which commenced on May 28, 1979. The Ammonia plant of the project has a per day capacity of 900 tonnes. Both the Ammonia and the Urea plants are operating normally.

The Bhatinda project is one of the two identical fuel oil based fertilisers projects implemented by the National Fertilisers Limited who have their other plant at Panipat. Production at the Panipat plant started early this year.

The National Fertilisers also operates the Nangal Fertilisers plant which was transferred to them from Fertilisers Corporation following restructuring of the public sector fertiliser industry. The Nangal Expansion Unit has an installed capacity to produce 900 tonnes of amonia per day which goes into the production of both urea and calcium ammonium nitrate (CAN). The plant which went on stream in January, 1978 was the first project to use heavy fuel oil as the feedstock.

Good Progress at Bhilai

Expansion of the Bhilai Steel Plant to 4 million tonnes from its present capacity of 2.5 million tonnes is progressing according to schedule. Reports from Bhilai indicate a tremendous spurt in activities at the four-million-tonne expansion site of the Plant during 1978-79.

Civil and structural works relating to expansion are in an advanced stage of completion. Work on all the major expansion units except the 7th Blast Furnace Complex is scheduled to be completed by December, 1981. Thus, Bhilai will contribute an additional 1.5 million tonnes to the country's total steel capacity once the expansion is completed.

The volume of concreting done during 1978-79 was three times more than the progress achieved in 1976-77 and 30 percent higher than the progress in 1977-78. The concreting done during last year was 246,368 cubic metres as against 7,930 cubic metres in 1976-77 and 191,900 cubic metres in 1977-78.

Similarly, the progress of structural work during 1978-79 was 19,925 tonnes which was more than three times the structural erection of 6,579 tonnes during 1976-77 and also more compared to the 11,523 tonnes during 1977-78.

Most of the civil work in the plate mill area and the converter shop are now complete. The speed of equipment installation has also increased considerably. The assembly and installation of two converters involving special welding technology was taken up departmentally and has been completed. Setting up of equipment for power and oxygen plant has already begun.

Plant sources feel that the achievements in the field of construction are commendable and mention that the

work done so far has been praised by the visiting Soviet experts. Further expansion of the Plant by 1 to 1.5 million tonnes more is proposed through technological improvements and innovations in collaboration with the Soviet Union, at relatively low investments.

Higher Potential for Drug Industry Growth

The Union Minister for Petroleum, Chemicals and Fertilisers, Mr. H.N. Bahuguna expressed the hope that the drug industry with its resources will not only be able to increase its present annual turnover of Rs. 10,000 million to about Rs. 19,000 million by 1982-83, but will also surpass it to make more medicines available to the masses at cheaper prices.

The Minister, who was inaugurating the drug unit of the Wockhardt Private Limited allayed the fears that because of too many rigid contols, the needed investment to achieve the target of growth may not be forthcoming and said that keeping the national perspective in view, certain amount of control and regulatory measures were absolutely necessary for the balanced growth of the drug industry.

The Minister said that the new drug policy of the Government was not rigid but was more comprehensive than before. The policy was aimed at ensuring better availability of medicines at reasonable prices and the emphasis was on increasing domestic capabilities and ending the hold of foreign companies in the production of simple house-hold remedies.

The Minister added that the Government was committed to the rapid and dynamic industrialisation of the country and the new drug policy was well within the overall framework of industrial policy. While an increasingly important role was envisaged for the public sector, the Indian and foreign sectors, who had made a significant contribution in the past, were expected to strive hard to play a more effective role in the future.

The Minister emphasised the need to increase bulk drugs production and said that indigenous production of bulk drugs which was estimated at Rs. 1,800 million during 1978-79, had to be increased to Rs. 4,600 million between now and 1982-83. If the industry took up the task seriously and with a sense of involvement in the broader national aspirations and objectives, the goal could not remain unachievable.

Mr. Bahuguna said that Plan projections for drug industry growth indicated a vast investment and employment potential and the opportunity offered had to be exploited to the fullest extent.

The Minister called upon the industry to devote attention to the needs of the vast majority of people living in rural areas and said that entrepreneurs could help solve problems of urban congestion, environmental pollution and rural un-employment in one stroke if they established units in the rural and backward areas.

Referring to the question of relaxation of the ratio of 1:10 for bulk drug production to formulation for the Indian companies located in backward areas, the Minister said that the ratio was fairly liberal. The new location policy for industrial development and various other incentives given by the Government should encourage setting up of new units in the backward areas.

Regarding issue of advance import licence to the extent of 100 percent content of raw materials for exports without payment of customs duty, the Minister said that the matter was being considered by Union Ministry of Commerce, Civil Supp... Cooperation who were exam... scheme for the supply of ... imported drug raw materia... production of pharmaceutical f... tions for exports.

Referring to the impact of lev... taxes on the price of formu... Mr. Bahuguna said that the ... had offered various concessions ... pharmaceutical industry. For ir... customs duty of 22 life saving ... had been abolished and custom... on 17 drug intermediates had ... reduced. The special duty of 5 p... on basic excise duty had also ... abolished and the exise duty ... percent on packing material, lev... the budget had been withdraw...

The Minister said that the U... Government had also taken up ... question of abolition of Central ... tax, States sales tax and o... with the State Governments.

Rejecting the suggestion that no ... formulation capacity should be cre... in the public sector, the Minister ... that the share of public sector ... units in the Sixth Plan requiremen... formulations of Rs. 18,750 millio... only 13.3 percent. The Indian ... small scale sector was expected ... cover 56 percent of the require... while the anticipated share of ... foreign sector was 30.7 percent. ... public sector share of 13.3 pe... was based on only 35 percent o... bulk drug production by public se... units themselves. According to ... new drug policy, however, the p... sector was expected to use up ... percent of its bulk drug production.

Mr. Bahuguna said that the Go... ment had made substantial inves... in the public sector, and to ensure ... they remained financially viable ... would be necessary for units in

in for formulation activity

tee on Impact of ıcessions

ekar Committee to study of tax concessions, appointed vernment of India, was augurated recently by the me Minister, Mr. Charan

n the occasion, Mr. Charan ha: most important problems country today were (a) slow per capita income of the) growing unemployment owing disparities in income. ırgent steps were necessary these problems, so that y's economy could be put n keel.

ty Prime Minister said that necessary to reduce pressure nd to generate more employ- cupations outside agriculture. e past several decades, many itherto engaged in cottage , had to take to agriculture resort, as more and more isation came about. This lted in low productivity of growing disparities in income. balance had to be removed untry wants to improve the condition of the people.

ed the need for encouraging nd handicraft industries, so people in rural areas could ully employed. Though the ita surplus of the people in handicrafts might be low, terms the amount would be The only question was to these surpluses for utilising further productive purposes.

ed that the committee would o these problems and suggest nd means through which the Government could take steps to promote employment and adopt labour-intensive methods of production ensuring economic growth and self-reliance.

The expert committee has the following members :

1. Prof. V.M. Dandekar,
   Director,
   Gokhale Institute of Politics & Economics,
   Pune (Chairman).
2. Dr. A. Vaidyanathan,
   Reserve Bank of India Fellow,
   Centre for Development Studies,
   Trivandrum.
3. Dr. Anand P. Gupta,
   Professor of Economics,
   Indian Institute of Management,
   Ahmedabad.
4. Shri L.C. Jain,
   Chairman,
   All India Handicrafts Board.
5. Shri K. Narasimhan,
   Special Secretary,
   Department of Revenue,
   Union Ministry of Finance.
6. A senior officer of the Department of Revenue from the direct taxes side will also be nominated to the Committee.
7. Dr. A. Bagchi, Director in the Fiscal Policy Section of the Department of Economic Affairs, Union Ministry of Finance will the Member-Secretary.

The terms of reference of the Committee are as under :

(i) To identify provisions in Central tax laws which have an influence on the employment of labour in the economy ;

(ii) To examine the impact of these provisions on employment and the techniques of production in industry, agriculture and other areas of economic activity ;

(iii) To suggest appropriate changes in Central tax laws so as to promote employment and adoption of labour-intensive methods of production having due regard to administrative feasibility and other objectives of public policy such as economic growth and self-reliance; and

(iv) To make recommendations regarding any other related matter.

The Committee has been requested to submit its recommendations by September 30, 1979.

The Deputy Prime Minister and Finance Minister in his Budget speech in the Lok Sabha on February 28, 1979 had announced the Government's intention to appoint an expert committee of economists and tax administrators to study the impact of tax concessions on the techniques of production used in industry and make recommendations for reform in order to encourage the adoption of labour-intensive methods and enlarge opportunities for employment.

Augmenting Shrimp Production

The Marine Products Export Development Authority (MPEDA) has made appreciable beginning in the scientific shrimp farming through a record harvest from a 0.22 hectare brackish-water pond near Cochin. In a single crop of three months duration 112.5 kilogram shrimps were obtained from this area. Stocking of shrimp fry (*Penaues indicus, P. monodon* in the ratio 4:1) was done at the rate of 50,000 per hectare and survival at the end of culture period was 60.34 percent. Experiments conducted elsewhere have proved that nearly 1,000 kilogram shrimps worth Rs. 30,000 can be produced from one hectare brakish-water pond in two short term crops.

Under the technical assistance of MPEDA, as part of the develop-

mental activity to augment shrimp production in the country euu lctr, activities are under way in 54 acres (22 hectare) in different parts of Kerala. This is to be extended all over the maritime States of India.

There are nearly 2 million hectare of cultivable brackishwater area where shrimps and other fish can be cultivated. Even if only 0.5 percent of the available area is brought under cultivation about 10,003 tonnes of shrimps can be produced. This will amount to be an increased production of one fifth of the total quantity of shrimps exported from India during the year, 1978.

Brackishwater shrimp farming is expected to improve the economic set up of the backward rural areas along India's coast line by providing productive employment for the fishermen and farmers.

Indigenisation of Telecommunications

The substantive responsibility for planning, installation and operation of the national telecommunication network rests with the Union Ministry of Communications and the Post and Telegraph Department. Similar responsibility in respect of the specialised or dedicated telecommunication systems required by other major users like the defence services, Railways and Oil and Natural Gas Commission (ONGC), rests with the concerned organisations. However, as the nodal agency of Government, responsible for the balanced and integrated development of electronics as a whole, the Department of Electronics performs several coordinating, synthesising, advisory, promotional and regulatory functions (import control and industrial licensing) in this sector, as in other sectors of electronics. The progress of Research and Development (R&D) and production in telecommunication is closely monitored to ensure that to the maximum possible extent the requirements are met through indigenous efforts. Programmes initiated in this direction, particularly in the area of UHF and microwave communication equipment at major public sector undertakings like Bharat Electronics Limited (BEL) and Indian Telephone Industry (ITI), as also in State corporations like Gujarat Communication and Electronics Limited, have started yielding significant results. Efforts are also under way to ensure that an appreciable part of the satellite communication ground equipment required for the INSAT project as well as the remote area communication projects of the P&T are available in time for commissioning these projects. A particularly notable development is that indigenous sources for the supply of UHF and microwave antennae have been established with strong support and promotion by Department of Electronics, and these are expected to meet the bulk of the large national requirements of these products. Concurrently, R&D projects have also been initiated to establish indigenous capability for high performance antenae. Considerable amount of work has also been done in the area of telemetry, telecontrol and telecom and equipment needed by State Electricity Boards and other users. Efforts are also under way to broaden the base of the tele-communication equipment manufacturing industry by encouraging other public sector undertakings and State Electronics Development Corporations to take up certain types of equipment. In regard to the emphasis on rural telecommunications in the Roll-on Plan 1978-83, technical studies have been undertaken to evolve appropriate technological options to provide economical and reliable communication netw... rural areas within available reso...

Computerisation in Indi... Forges Ahead

At present there are about 45(... puters installed in India. Of ... 22 percent are indigenous system... Electronics Corporation of ... Limited (ECIL) which entered ... market with the installation ... first Mini computer TDC-12 at Bh... Atomic Research Centre (BA... in April, 1971. The first comp... however, came to India in 1955 w... the Calcutta branch of Indian St... dards Institution (ISI) acquired a... computer HEC-2M from Holle... India Limited, now known as I... national Computers Limited (IC... In 1958 ISI got a gift of a Russ... computer named URAL.

The process of computerization in ... country has been steady. Utmost ... has been taken to ensure that ... introduction of computers brou... about efficiency and cost reduc... without in any way, affecting ex... sion of industrial employment. Stu... have shown that each comput... provides, on an average, 18.4 jobs ... addition to absorbing those displ... by its introduction. The decline ... employment is substantially more ... compensated by the indirect empl... ment generated elsewhere.

Computers find application in vario... areas, namely, atomic energy, sp... and aeronautics, industrial proc... control, biomedical and defence. T... are used in transport manageme... for data collecting and ensur... information on up-to-date status ... traffic movements, in agricul... management for logging data on ... gational releases and pump-set op... tions; in water management for f... casting the hydrological phenom... in forestry for collecting and upda... of behavioural and process data ...

ysis and evolving optimal
policies for reservoirs ;
king management for quick
of reliable data, fast com-
of data, data handling
analysis for rapdi feedback
tion.

ne computers in India are
in the range of mini-midi
The introduction of com-
India had been during
imarily through educational
institutions. During this
o computer systems were
ly designed namely, ISIJU
Calcutta and Jadavpur
and TIFRAC by TIFR,
The process of computerisa-
lly attributed to the period
During this period public
the lead in computerisation.
3, half of the computers
were from ECIL. The com-
m DEC, Burroughts, CA,
and Verian, found market
luring this period. Presently
total number of computer
e in public sector and nearly
n in educational and R&D.
s and the rest in the private
ganisations. The maximum
121) of computers are in
tra followed by Delhi
nataka having 59 and 51
espectively.

est number of computers (34
is from Interr ational Business
(IBM), half of which are in
ector.

the rapid growing domestic
ents for data processing and to
chnological self-reliance in
of computers, the Depart-
Electronics felt the need for
and determined efforts to
loser links between the R&D
tions and the production
Need was felt for building
tructural facilities like components and material base, standardisation and testing export quality assurance centre, and national and regional computer centres.

National Information Centre (NIC) has been set up to develop methodologies for designing and implementing national information systems in Government and associated agencies and to demonstrate this on an appropriate scale of operations. Other infrastructural facilities which have been set up are; National Centre for Software Development and Computing Techniques (NCSDCT), Regional Computer Centres (RCCs) at Calcutta, Chandigarh Kanpur/Lucknow and Pune; Electronics Trade and Technology Development Corporation (ETTDC); and Computer Maintenance Corporation (CMC).

The Technology Development Council (TDC) set up by the Electronics Commission recommended so far the funding of 28 projects costing around Rs.68 million in the area of computer systems and applications.

Presently ECIL has developed and marketed TDC-12 TDC-312, TDC-316 and Micro-78 computers.

ECIL computers are being used for monitoring the fast breeder test reactor at the atomic power plant, Kalpakkam, for controlling telemetry interface operation at Sriharikota; and for data logging and governing the control systems at Gujarat State Fertiliser Company, Baroda and for processing telemetry signals from Aryabhatta; India's first satellite. A TDC-316 computer system is being used by the Department of space for satellite launch operations at its Sriharikota launch Complex.

TDC-312 computers find use in thyristorised shear control at Bhilai Steel Plant; in crystal structure studies at Nuclear Physics Division, BARC, Bombay; in cosmic ray studies at Kolar Gold fields; in astrophysical research at Indian Institute of Astrophysics, Kavalur; and in seismic data analysis at Seismic Array Station, Gauribidanur, in simulation studies related to design and performance of aircraft at National Aeronautical Laboratory.

A commercial data processing (CIP) system of ECIL has been installed in Business Efficiency Services, Calcutta.

ECIL computers have been installed in Bombay, Delhi and Madras to cater to the needs of the police.

Indian Airlines Traffic Goes Up

Indian Airlines carried 5.32 million passengers during 1978-79 as compared to 4.37 million passengers in 1977-78, registering an increase of 21.7 percent.

The Airlines is expected to fly 7.91 million passengers in 1981-82.

Ten more jets, three of them 278 seater wide body airbus and seven Boeings 737 will join the Airlines fleet between October this year and September, 1981. The sixth Airbus will be delivered in October this year while three Boeings and two more Airbus aircraft will be added to the fleet by middle of 1980. The remaining four Boeings 737 will be received by September, 1981.

The foreign exchange earnings of the Airlines increased from Rs. 412.3 million in 1977-78 to Rs. 464.4 million in 1978-79.

The Indian Airlines carried 44,200 tonnes of cargo in 1978-79 as compared to 34,414 tonnes registering an increase of 28.4 percent. The cargo revenue earned during the last year was Rs. 115.6 million as against Rs. 94.9 million in the year 1977-78.

Science and Technology

Fibre Glass Technology

The Central Glass and Ceramic Research Institute (CGCRI), Calcutta, has developed a technology for the production of fibre glass in small scale sector with an investment of a few hundred thousand rupees. Till today, only large units have been manufacturing fibre glass in the country with foreign collaboration involving capital investments of several millions of rupees. The technology developed by CGCRI is economically viable as well as appropriate for the country.

Fibre glass is used for the manufacture of reinforcement fibres in the form of rovings, diamond woven mat and chopped strands using commercially available neutral glass rods as the starting material. Fibre glass reinforced plastics are used in transport industry, production of containers, furniture, chemical plants and equipment, pipes, etc.

Fibres in composite specimens have been prepared using these fibres in the form of diamond woven mat and polyester resin and have been tested at the laboratory and also at the Vikram Sarabhai Space Centre, Trivandrum.

The specimens are 2.5 to 3 times stronger than those prepared from commercial chopped strand mat under identical conditions. The estimated demand of fibre glass is several thousand tonnes, provided the material is available at a lower price.

In the CGCRI process, glass rods are fed at a controlled rate into an electrically heated furnace. As the tips of the rods get softened, the glass is drawn out in the form of fibres and wound in a collect drum rotating at a predetermined rate. The fibre 'cake' collected in the drum is then dried and reworked to get diamond woven mat or roving.

The laboratory has produced the material at the rate of 0.5 kg/hr. However, a pilot plant of the capacity of 1.2 kg/hr has been designed and is in operation at the laboratory.

The raw materials required in the process are commercial neutral glass rods of IS type 1 or soda glass. These materials are available indigenously. The items of equipment and accessories required are: variac transformers (40 and 15A), temperature controller, temperature indicator, voltage stabilizer, furnace, feed system with motors and controllers, applicator and shoe complete with motor, traverse with motor and control, collect drum with motor, compressor, steel structure, mat unit, roving machine, accessories and spares.

The suggested capacity of an economically viable unit is 100 kg of fibre glass per day. Capital investment on plant and equipment for such a plant will be Rs. 120,000 and working capital, 120,000 (90 days production cost). Consumption of electricity will be 400 k Wh per day. The cost of production has been worked out at Rs. 20 per kg. giving a profitability of Rs. 5 per kg.

Further particulars can be had from the National Research Development Corporation of India, 61 Ring Road, Lajpat Nagar III, New Delhi-110024.

Promotion of Ecological Research

National Committee on Environmental Planning and Coordination (NCEPC) has initiated a number of research programmes to study the impact of development activities on the environment. These projects are on land use, forestry, aquatic ecosystems, pesticidal residue problems, recycling of wastes and quality or water and a research committees. Man sphere Committee (MAB) and mental Research Committee (E been constituted to identify th areas of research and develo

The NCEPC was set up in 19 advisory body to integrate envi concerns in the process of for economic development. past seven years, the comm been working on promotion of mental and ecological research nmental management; project sal and environmental guidel stimulation of environmental at various levels.

MAB has been guiding the s of Biosphere Reserves. The would be set up to conserve fo and future use the diversity a rity of communities of plan animals within natural ecosyste to safeguard the genetic mate contain. These will be linked international network of protec which will serve as represent earth's ecosystems.

The MAB programme has ta 14 projects to study the effect o activities on the biosphere. These the study of ecological effe increasing human activities o ecosystems of tropical forests, tains, lakes, rivers and arid a arid zones; ecological aspects c systems and research on enviro pollution.

The ERC has been promotin and research on environmental of rural and urban settlements research management; enviro degradation; and environmenta ning and training and educatio

Under the extension programm will take up five schemes in the year on waste water treatment

pulp industry; abatement of
k pollution in rubber indus-
nation of polluted water
stimization of urban trans-
and improvement of rural
t.

PC has commissioned several
different aspects of pollution.
ed in formulating legislation
mental protection. A nation-
y of wetlands (shallow water
as conducted to collect
formation on the nature and
n of wetland ecosystems. The
regulate water conditions
le habitats to characteristic
animal communities. Another
aquatic weeds was conducted
the nature and magnitude of
as the weeds interfere with
t utilisation of water resources.

CPC has been in close contact
Planning Commission in
a mechanism for assessment
ironmental implications of
ent projects. An inter-minis-
vironmental Appraisal Com-
s been set up for an indepth
environmental aspects of
ctric and irrigation projects
referred to NCEPC. All the
s for thermal power projects
referred to NCEPC for environ-
ppraisal.

has done appraisal of many
from environmental point of
These include Nhava-sheva
project and 5,000 TPA DDT
Rasayani. It also took up
of Chilka lake and Madhumalai
y and ecological planning of
ghats.

international sphere, India has
a prominent role in setting up
ernational Habitat and Human
ents Foundation, focussing
n on the need for ameliorative
measures against natural disasters and promotion of environmental education. India is a member of the International Coordination Council of the MAB Programme of UNESCO.

Growth Prospects of Heavy Electrical Industries

The basic items covered under the heavy electrical industries group are steam turbines and generators, hydro-turbines and generators, boilers including auxiliaries and a wide range of transformers, switchgears, capacitors, transmission line equipment, motors etc. The demand for most of the electrical equipment is more or less directly related to the addition to generating capacity. Noting that the average annual addition to the generating capacity in the next five years is likely to be more or less double of that during 1974-79 period, the demand for electrical equipment is also likely to increase in the same proportion, according to the annual report of the Union Ministry of Industry for 1978-79.

The installed capacity for boilers at Tiruchi plant of Bharat Heavy Electricals Limited (BHEL) is 2,500 MW. This along with the capacity of M/s. Associated Vickers Babcock (AVB), who were recently allowed to expand from 500 MW to 1,000 MW adds upto 3,500 MW. Taking into account the demand arising from power generation sector, captive power plants, replacements and exports, it is considered necessary to create additional capacity. Accordingly, the capacity of BHEL's Tiruchi plant is being expanded to 4,000 MW and while doing so, a programme of product rationalization for ancillaries and valves is also being undertaken.

There are at present 12 units, in addition to BHEL and AVB licensed registered with the Directorate General of Technical Development (DGTD), for the manufacture of industrial boilers. Almost the entire domestic demand is being met indigenously. In view of the increasing demand for industrial boilers including that for the waste heat boilers, further capacity is being created on the optimization of the existing capacity and addition of balancing equipment in such units as Richardsons and Cruddas and Bharat Heavy Plate and Vessels, both in the public sector. Arrangements for necessary technology/collaboration transfer are also in hand.

To be able to meet the demand including that of spares, BHEL are expanding their capacity to 1700 MW. There is hardly any capacity other than in the BHEL and as BHEL may have to concentrate on turbines of larger ratings and runner diameter, turbines of smaller rating say below 30 MW will need to be developed elsewhere. This is being explored, particularly by the Bharat Pumps and Compressors who are manufacturing large capacity centrifugal pumps.

Power plant auxiliaries include a number of items as induced and forced draft fans (manufactured mainly by BHEL and Andrew Yule), coal pulverizing mills (manufactured by BHEL), feed water pumps (manufactured by BHEL), electrostatic precipitators (manufactured by BHEL, Voltas, etc.) circulating water pumps, water treatment plants, coal and ash handling plants (manufactured by various companies), [illegible] manufactured by Instrumentation Ltd., Kypa and others), condensers, high and low pressure heaters (manufactured by BHEL) and control of other valves, (manufactured by BHEL, Instrumentation Ltd., Palghat and others). In all these cases, the manufacturing facilities have to be expanded, upgraded and larger unit size equipments will have to be taken up.

In order to meet the peak demand as also to provide for export and some cushion, the capacity for transformers will need to be expanded. In addition, a notable feature is the increase in the demand of 400 KV transformers from 1150 KVA in 1978-79 to over 9,000 KVA in 1982-83.

Since there are already a large number of transformer manufacturers in the organized sector, about 337, the policy intended to be adopted is to avoid further fragmentation of capacity or proliferation of designs and enable the existing units to upgrade their production to higher voltage and KVA rating transformers, all along the line. This would also enable them to increase their overall capacity. The range shed by larger units can be taken up by the medium units and that vacated by the medium units can be taken up by smaller units.

About 95 percent of the demand, specially for 33 KV circuit breakers is for the power transmission and distribution (Railways and industry accounting for the rest).

Although the existing capacity for High Tension (HT) circuit breakers is twice as large as the peak demand, it may become necessary to allow expansion to such of the units whose products enjoy greater preference. It is also proposed to allow diversification of the existing units into higher KV rating switchgear. Circuit breakers based on new technologies such as with sulphur hexafluoride (SF) and vacuum technologies, the former for higher voltage and the latter for lower voltage, are also proposed to be taken up for manufacture.

LT circuits breakers are required for power distribution and by industry. The capacity is considered to be adequate for meeting the requirement in the current Plan period. However, encouragement is being given to increase the production of moulded case circuit breakers, considered a superior product and preferred by the industry.

The existing/approved capacity for starters and contactors is expected to be able to meet the demand upto 1982-83.

A large capacity for switch fuse units, push button switches, HEC fuses etc. has already been created a culty is envisaged in meetir ing demand.

Electric furnaces cover a of items which a can be (i) Electric Arc Meltirg Fu Induction Meltirg Furnac duction Heating Equipmer Heat Treatment Furnaces capacity for all these has bee approved.

At present BHEL have the manufacture about 1,300 ma Chittaranjan Locomotive of Railways another 500 tr tors. A substantial augme capacity would be necessa requisite steps in this regar taken.

As regards industrial stean many industrial plants like su fertilizers, chemical, steel, etc. require steam at low p process as well as for d three existing units includi would be in a position to st production and to adequatel demand and. in the pr bring up their production to nomically viable level.

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Present Status of Heavy Electrical Industries

Product	*No. of units*	*Capacity and Production*		*Production*	
		Accounting unit	*Capacity*	1977-78	1978-79 *(anticipated)*
ity Boilers	3	Rs. in million)			
Industrial Boilers	14	Rs. in million)	2,470	1,847.7	2,000
Hydro Sets	1	Million KW	1.4	0.83	0.78
Transformers	33	Million KWA	28.3	16.13	18.33
Industrial Steam Turbines	3	Million KW	2.7	1.61	2.11
Electric Motors	35	Million HP	6.71	4.04	4.50
Electric Furnaces					
1. Arc Melting	5	numbers	80	Rs. 33.089	Rs. 68.00
2. Induction Melting	5	numbers	34	(million)	(million)
3. Heat Treatment Furnaces	11	(Rs. in million)	140	100	—
Circuit Breakers:					
1. H. T.	17	numbers	18,000	6,000	—
2. L.T.	—	numbers	37,025	10,000	—
Starters and Contactors	—	Million numbers	1.43	0.833 (Approx)	0.84 (Approx)

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Ab

Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1—9, 1979
Damascus International Fair, Damascus (Syria)	July 4—23, 1979
International Trade Fair, Maputo (Mozambique)	August 25—September 9,
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979.
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25—29, 1979
Indian Exhibition, Dubai	Dates to be fixed
Indian Exhibition, Mexico	November—December, 19
Indian Exhibition, Manila (Philippines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, P Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

...s Highlights

...-Soviet Economic Cooperation

... Joint Statement signed by India's ... Minister, Mr. Morarji Desai and ...oviet President Mr. L.I. Brezhnev at ...nd of the former's visit to the ...t Union recently, the two ...rs re-affirmed their faith in fruitful ...eral cooperation in various spheres. ... Statement says that the Long-Term ...amme of Economic, Trade, Scienti... ...d Technical Cooperation of March ... the Agreement on cooperation in ... field of peaceful uses of nuclear ...y, the Fifth Session of the Inter...rnmental Indo-Soviet Commission ... in Moscow in June 1979, the ...eration of Indian and Soviet scien... ...n the launching of the second Indian ...cial earth Sateilite BHASKARA by ...iet rocket and the Agreement on the ...g up of the Vishakhapatnam Steel ...plex are new manifestations of the ...mination of the two sides to expand ... economic and other cooperation.

...ngthening Indo-Egypt Economic ...

... result of the Union Energy Minister ... P. Ramachandran's official visit to ...pt recently, a protocol has been

(*Contd. on page* 2)

Export Performanee and Potential

Expanding Indo-Soviet Economic Cooperation

The Soviet Union is to give 600,000 tonnes of crude to India in 1979 in exchange for rice. A contract to this effect has been concluded. This crude will be in addition to the quantity of 1.5 million tonnes which would be supplied by the Soviet Union this year under an existing contract.

During the recent visit of the Union Minister for Petroleum, Chemicals and Fertilizers to Moscow, a contract was concluded in regard to the supply of an additional quantity of 600,000 million tonnes of crude oil from USSR to India during 1979. The additional crude oil supplies would be in exchange for export of rice of equivalent value from India to the Soviet Union. It would be recalled that the contract for rice supply had already been concluded in New Delhi a few weeks ago.

It should be mentioned that these supplies would be in addition to the quantity of 1.5 million tonnes which would be supplied by the Soviet Union during 1979 under an existing contract. Crude supplies from the Soviet Union have been forthcoming regularly in keeping with the contractual entitlements. Supplies of crude oil from Soviet Union commenced in 1977 in terms of an Agreement covering a total quantity of 5.5 million tonnes comprising one million tonnes during 1977 and at the rate of 1.5 million tonnes per annum during 1978-1980. The provision for long-term imports of crude oil from Soviet Union is incorporated in the Indo-USSR Trade Protocol.

India to set up Nigerian Machine Tools Complex

The State-owned Hindustan Machine Tools (HMT) is to participate

concluded, which in addition to India's assistance in rural electrification projects, provides for services for rehabilitation of thermal power stations in Egypt, joint ventures for manufacture of electrical equipment, and exchange of experts and inforamtion in the field of solar energy and biogas generation.

Indo-Nigerian Machine Tools Project

A protocol for Indian assistance in setting up a machine tools complex in Nigeria was concluded at New Delhi recently. The public enterprise, Hindustan Machine Tools (HMT) will participate in a joint venture with the Government of Nigeria for the Rs. 560 million machine tools project known as "The Nigerian Machine Tools Limited". The implementation of this project will commence by the end of June, 1979. (Page 1)

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in a joint venture in Nigeria with the Nigerian Government a machine tool complex known as "The Nigerian Machine Too

A protocol to this effect was concluded at New Delhi, recen the Union Minister of Industry, Mr. George Fernandes, and Commissioner of Industries of the Federal Republic of Niger Adeleye, at the end of the latters eight-day visit to the countr

The implementation of the project will commence by the end of

The project is estimated to cost Rs. 560 million, of which the e be about Rs. 230 million. HMT'S participation in the e be to the extent of Rs. 33.8 million through supply of machin HMT will be rendering technical services and collaboration fo

The project marks a significant achievement in Ind-Nigerian and opens up immense possibilities of effective co-operation be and Nigeria in a wide range of industries.

Both sides agreed that similar scope exists for setting up sultancy venture in Nigeria with participation by the Indian o Metallurgical and Engineering Consultants (India) Limited

India has also offered to specifically assist Nigeria in the p small industries and setting up of industrial estates and training personnel in industry and engineering.

It was further agreed that scope exists for joint ventures i of areas critical to Nigeria's economy such as chemicals, engine cation and metal working, machine building, tractors and farm building materials, glass and sheet glass, basic electronics, fo processing.

Rail India Technical and Economic Services (RITES) is alrea Nigerian Railways in the management of its railways system. of expanding the co-operation between RITES and the Nigeria have also been discussed.

MECON is intimately involved with the development of th steel industry by executing assignment of consultancy and mo the one million tonne Warri Steel Plant in Nigeria and in re expansion of the Delta Steel Plant from one million tonne to tonnes capacity. It was agreed that this co-operation expanded.

The two sides also noted the possibilities of Indian assistance in t and beneficiation of iron ore, establishment of oil refinieries an ment of petro-chemical industries.

Dr. R.A. Adeleye visited important projects in India, includi of Hindustan Machine Tools, Bharat Heavy Electricals Limited, Corporation of India Limited, the Cable Corporation and Industrial Training Institute at Hyderabad. The Nigerian also visited the Paper Plant of Birla Brothers at Amaraye, Madhya Hindustan Aluminium Company at Renukoot, the factory of Fertilizers Limited at Panipat, the tractor factory of M/s. Escorts bad and the Okhla Industrial Estate, New Delhi.

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tantial Contribution by to TCDC

has decided to set apart 10 t of the UNDP Indicative Plan- igure for the activities connected Technical Cooperation among oping Countries (TCDC). In te terms, this would mean that will make available for TCDC ies an amount of approximately ollars 5.8 million over the next years.

vas stated by Dr. D.T. Lakdawala, y Chairman, Planning Com- n, in his key-note address in the India-Economic Commission for America Meet at New Delhi, ly. He expressed the hope that Meet would work out the areas in TCDC could best be promoted hese funds optimally utilised.

Lakdawala said that India was nitted to the concept of TCDC the country's experience in this d had been diverse and wide- ng. In agriculture, India was orating wth a number of coun- like Sri Lanka, Vietnam, Iraq, and Mauritious to assist in the opment of animal husbandry, ries and foodgrains output. In tries also, India had established 100 joint ventures with other oping countries of South-East Asia, Asia and Africa providing inputs capital, expertise, consultancy es and labour in accordance with ocal requiements, he added.

Dr. Lakdawala pointed out that in the field of social services, India was co-operating with other developing countries in the training of doctors, specialists and nurses and in creating skilled manpower. In science and technology also, India had taken the initiative and brought into existence a Regional Centre for Transfer of Technology to provide for the needs of the ESCAP region, and assistance through a number of bilateral programmes was also being extended. In all such ventures, India's endeavour was to reduce and eliminate the self-perpetuating relations of dependence that traditional donor-recipient relations had generated, he added.

Dr. Lakdawala said that a major handicap in the progress of TCDC had been lack of information regarding the capacities and facilities available in other developing countries. He pointed out that one way of tackling this problem could be through greater contacts both on a bilateral basis, as also on a multilateral plane. He emphasised the need to establish meaningful contacts and to take steps for bridging the information gap between groups of countries and said that the present Meet could play a significant role in this respect.

Dr. Lakdawala said that there were good prospects of technical cooperation, terms of trade, collaboration in consultancies and in setting up of joint ventures; but certain obstacles would have to be overcome to achieve these. This was a formidable task and to meet the challenge, comprehensive and integrated set of promotional measures were required to be jointly adopted by the two regions, he added.

Upward Trend in Tobacco Exports

Exports of tobacco from India during 1977-78 were of the order of Rs. 1,132.1 million as against Rs. 978.4 million during 1976-77, registering an increase of around 16 percent in terms of value, says the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for 1978-79.

The unit value realization for the export of tobacco has been steadily increasing during the last three years. It rose from Rs. 8.75 per kg. during 1974-75 to Rs. 16.17 per kg. during April-December, 1978, says the report.

Promotion and regulation of export trade of all types of tobacco as well as tobacco products is controlled by the Tobacco Board, which was set up in January 1976 under an Act of Parliament. The Tobacco Board has initiated measures to streamline grading of tobacco at the farmer's level. Eight new farm grades were introduced by the Board for the 1977 crop. Outlining the characteristics and the description of the eight grades, the Board has been disseminating information to the groweres in this regard.

On the research and development side, the Board has taken on hand a number of activities including the setting up of varietal plots, input demonstration plots and the like. Close liaison is maintained with research stations in the country, in particular with the Central Tobacco Research Station at Rajahmundry.

The Board has been empowered to regulate the production of virginia tobacco which is grown in the States of Andhra Pradesh and Karnataka, by issue of certificate of registration to the growers indicating the area in which they are permitted to grow tobacco. According to the registration particulars available with the Board, for the year 1977-78 the total permitted area under virginia flue-cured tobacco

concluded, which in addition to India's assistance in rural electrification projects, provides for services for rehabilitation of thermal power stations in Egypt, joint ventures for manufacture of electrical equipment, and exchange of experts and inforamtion in the field of solar energy and biogas generation.

Indo-Nigerian Machine Tools Project

A protocol for Indian assistance in setting up a machine tools complex in Nigeria was concluded at New Delhi recently. The public enterprise, Hindustan Machine Tools (HMT) will participate in a joint venture with the Government of Nigeria for the Rs. 560 million machine tools project known as "The Nigerian Machine Tools Limited". The implementation of this project will commence by the end of June, 1979. (Page 1)

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A protocol to this effect was concluded at New Delhi, recently the Union Minister of Industry, Mr. George Fernandes, and th Commissioner of Industries of the Federal Republic of Nigeria, Adeleye, at the end of the latters eight-day visit to the country.

The implementation of the project will commence by the end of Ju

The project is estimated to cost Rs. 560 million, of which the equ be about Rs. 230 million. HMT'S participation in the equ be to the extent of Rs. 33.8 million through supply of machiner HMT will be rendering technical services and collaboration for t

The project marks a significant achievement in Ind-Nigerian co and opens up immense possibilities of effective co-operation betw and Nigeria in a wide range of industries.

Both sides agreed that similar scope exists for setting up a sultancy venture in Nigeria with participation by the Indian or Metallurgical and Engineering Consultants (India) Limited (

India has also offered to specifically assist Nigeria in the pro small industries and setting up of industrial estates and training personnel in industry and engineering.

It was further agreed that scope exists for joint ventures in of areas critical to Nigeria's economy such as chemicals, engine cation and metal working, machine building, tractors and farm e building materials, glass and sheet glass, basic electronics, foo processing.

Rail India Technical and Economic Services (RITES) is alrea Nigerian Railways in the management of its railways system. of expanding the co-operation between RITES and the Nigeria have also been discussed.

MECON is intimately involved with the development of the steel industry by executing assignment of consultancy and mo the one million tonne Warri Steel Plant in Nigeria and in re expansion of the Delta Steel Plant from one million tonne to tonnes capacity. It was agreed that this co-operation expanded.

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in India during that year was 217,000 —199,000 hectares in Andhra Pradesh and 18,000 hectares in Karnataka. The total area is covered by 77,017 growers, all of whom were registered with the Board.

There was a substantial excess production of Virginia Flu Cured (VFC) tobacco in Andhra Pradesh during 1977-78, which was estimated at 1,35,000 tonnes against an estimated demand of 115,000 tonnes. This had caused depression in tobacco marketing and the prices ruled low. The Government had to intervene in the market through the State Trading Corporation (STC) to mop up some of the surplus production so that the growers are not left with unduly large stocks of unsold tobacco. The Government directed the STC to purchase 10,000 tonnes of VFC tobacco on Government account from Andhra Pradesh from 1978 crop. The purchases were to be made mainly from the growers and growers, cooperatives/ syndicates. Subsequently, the STC was directed to purchase the balance quantity from small packers if the whole quantity of 10,000 tonnes could not be purchased from growers and their cooperatives syndicates. In addition to the quantity of 10,000 tonnes on Government account, the STC was also to purchase a quantity of 5,000 tonnes on their commercial account.

During 1978-79, the Tobacco Board took action under the Tobacco Board Act to regulate acreage under VFC tobacco in Andhra Pradesh so as to obviate a situation of glut and consequent depression in prices. The Tobacco Board had taken action to restrict the acreage under VFC tobacco in Andhra Pradesh to about 150,000 hectares which could yield a production of about 110,000 tonnes. The Scheme, however, could now be fully implemented. With a view to protecting the interest of the growers, it has been decided to purchase 10,000 tonnes of VFC tobacco on Government account through the STC in addition to 5,000 tonnes of tobacco, which the STC is to purchase on their commercial account. Out of 10,000 tonnes on Government account, 5,000 tonnes will be purchased by the STC from the growers direct in the new farm grades at centres agreed to by the Tobacco Board and the other 5,000 tonnes will be purchased as re-dried Agmark tobacco from the growers co-operatives.

During 1977-78, there was excess production of bidi tobacco in the States of Gujarat, Maharashtra and Karnataka. The Central Government decided to purchase up to 25,000 tonnes of non-virginia tobacco, consisting mainly of bidi tobacco, through National Agricultural Co-operative Marketing Federation of India (NAFED) from the States of Gujarat, Karnataka and Maharashtra to avoid any undue hardship to the growers due to depression in tobacco prices in view of its excess production. The NAFED could purchase a quantity of about 5,281 tonnes (5,047) tonnes from Gujarat and 234 tonnes from Karnataka).

Taking into consideration the surplus production of bidi and other types of tobacco, and the difficulty being experienced in marketing them, the Government appointed an Expert Group in July 1978 to make a study of the problems in depth and to recommend measures necessary for regulation of production and improvement of marketing of tobacco. The Ex has also been asked mend amendments to t Board Act, so as to enable Board to play a decisive of production, research ment, marketing and types to tobacco prod country. The Exper required to submit i June 30, 1979.

Indo-EEC Commer Relations

According to the annual Department of Comme Ministry of Commerce, and Cooperation for basic framework for the of commercial relations b and the European Eco munity (EEC) is the Co-operation Agreement Joint Commission estab this Agreement to pursue of the Agreement met i its Sixth Session in O The Joint Commission detailed review of trade tion in major sectors incl neering goods, tea, leath feed, tobacco, marine pr puter software and mi Trade Promotion Program was also discussed. An outcome of the Joint meeting was the Commun to assist in the establism EEC Trade Centre in B Centre is expected to be tional during 1979.

During his visit to Bruss 1978, the Prime Minist Mr. Morarji Desai had with President Roy Jenk colleagues in the Euro mission on bilateral and i trade matters.

nsored 10-member E gi-egation from India visited ies in June 1978. The onsisted of two groups. up consisting of exporters ines visited Belgium, Hol- Ireland and the United The second group consis-ters of medical and surgical visited Belgium, France, the United Kingdom. A r Indian leather delegation ium, FRG, France, Italy ited Kingdom in October-978 under the Indo-EEC motion programme. A representing wholesale n Belgium, Netherlands, France of several product cluding made-up textile pper and brass articles, roducts, sports articles, ptical and meteorological , handicrafts, gift articles, d India in November 1978.

meeting of the Ministerial British Economic Committee n New Delhi from March 978. Discussions were held aspects of bilateral economic ncluding commercial and cooperation. It was decided oint machinery for monito-process of implementation. up of an important decision meeting of Indian officials ers with the British importers, anisations and officials was ndon in December 1978.

nd Session of the Indo- Joint Committee was held ue from June 29 1978.

meeting of the Indo-French on Economic and Technical n was held in New Delhi mber 19 to 22, 1978.

nd meeting of the Indo-Finish Joint Commission, was held in Helsinki from May 25 to Jure 2, 1978.

During May 1978, the first meeting of the Indo-Swiss Joint Commission and in October 1978 the third meeting of the Indo-Swedish Joint Commission were held in New Delhi. During these Joint Commission meetings, ways and means to expand and diversify trade, prospects of Indian exports, industrial and technical cooperation and other items related to economic cooperation as well as promotion of trade between India and these countries were discussed.

A Spanish Trade Delegation conssiting of representatives of Association of Spanish Ship-builders, Spanish Marine Manufacturer's Association, Naval Architects and Engineering Consultants and Import and Export Company visited India between February 26 and March 11, 1978.

Indo-Austrian Trade Review

The annual report on economic and commercial conditions in Austria for the year 1978 issued by the Embassy of India, Vienna, states that after a very modest, but favourable bilateral trade balance for India in 1977 for the first time, the year 1978 again resulted in an appreciable deficit.

India's exports to Austria declined from ASch (Austrian Schillings) 309 million in 1977 by ASch 65 million (21 percent) to ASch 244 million in the year under review. India's imports from Austria moved up from ASch 301 million by 199 million (+66 percent) to ASch 500 million in 1978. The trade balance deficit totalled ASch 256 million, being slightly more than India's total exports of ASch 244 million.

On one side, the largest negative fluctuations, in relative terms, took place in the main categories of food and nutrition (—54 percent) and chemical products (—80 percent). On the other side, the most positive record was achieved in tobacco exports (+323 percent).

The results of Indian exports in absolute figures during 1978 were: food and nutrition ASch 40.3 million (—54 percent), tobacco and products thereof ASch 2.6 million (—54 percent), tobacco and products thereof ASch 2.6 million (—323 percent), raw materials ASch 16.6 million (+11 percent), chemical products ASch 5.1 million (—80 percent), semi-finished goods ASch 123 million (+12 percent), machinery and means of transport ASch 3.3 million (—1 percent) and finished goods ASch 52 million (—23 percent).

In the category of food, the decline was mainly on account of less coffee, tea and cocoa sales (from ASch 70 million to ASch 37 million in 1978). In the case of raw materials, India's exports advanced from ASch 15 million to ASch 16.6 million in 1978. The relative satisfactory result was achieved by more exports of cork and wood from ASch 0.9 million in 1977 to ASch 2.4 million.

Decrease was registered in ore and scrap shopments (from ASch 1.6 million to ASch 0.6 million). The considerable decline in chemical exports resulted from an almost complete loss of India's modest market share in inorganic chemicals (from ASch 25 million to ASch 3.8 million in 1978).

In respect of semi-finished products, the overall exports rose by nearly 12 percent (from ASch 109 million to ASch 123 million in 1978), which was due to more sales of leather and fur manufactures (+63 percent), paper and paper manufactures (+72,

percent) and mineral products (+26 percent).

Exports of machinery and means of traffic in total remained more or less stable. Declines were witnessed in exports of electrical machinery and vehicles. whereas exports of non-electrical machinery and office equipment rose significantly.

Sales of finished goods dipped by 23 percent from ASch 67.6 million in 1977 to ASch 52.3 million in the year under review, due to decline of clothing and garments exports by 27 percent from ASch 53.5 million to ASch 39.2 million in 1978.

Austria's heavy setback in 1977 exports to India (ASch. 301 million), completely corrected in 1978 with total exports of ASch 500 million, representing a reasonable advance compared to the then record year of 1976, when Austrian exports totalled ASch 450 million. This new gain was achieved by more exports of spinning materials (from ASch 36 million to ASch 119 million) in the year under review, fertilizers (from zero to ASch 74 million), semi-finished products (from ASch 63 million in 1977 to ASch 158 million), mineral manufactures (from ASch 7.8 million to ASch 18 million in 1978). iron and steel (ASch 42 million to ASch 123 million), and manufactures of metal (from ASch 8.5 million to ASch 14.5 million)

FERA Provisions Relaxed for Indians Overseas

A number of representations had been received by the Government of India from the representatives and Associations of the non-resident Indians and foreigners of Indian origin, wherein the difficulties arising out of certain provisions of the Foreign Exchange Regulation Act (FERA), 1973 had been enumerated. The Government have examined the matter and the following decisions have been taken to simplify the procedures with a view to mitigating the difficulties of the non-resident Indians and foreigners of Indian origin.

(1) It had been represented that some persons of Indian origin, who are nationals of a foreign state, could not, due to inadvertance or other reasons, declare the immovable properties held by them as on January 1, 1974 as required under Section 31(4) of the Foreign Exchange Regulation Act, 1973. Taking into account the difficulties explained by them it has now been decided that such persons should file declarations as early as possible and in any case not later than December 31, 1979, failing which a serious view will be taken of the contravention.

(2) The form of declaration for properties held as on January 1, 1974, has been simplified and copies of the same can be obtained from the Regional Offices of the Reserve Bank of India (RBI).

(3) The applications may be made either to the nearest office of the Reserve Bank of India where the non-resident holds the property or to the Reserve Bank of India, Foreign Companies Section, Central Office, Bombay.

(4) It had also been represented that some of the persons of Indian origin who are nationals of a foreign state could not, due to various factors, obtain the permission of the RBI to acquire the property as required under Section 31(i) of FERA 1973. With a view to avoiding hardship to such persons, it has been agreed that they should submit appl cations in respect of such properties as have been acquired from January 1, 1974 to May 31, 1979, as soon as possible but in any case on or before December 31, 1979, failing which a serious view will be taken of the contraventions.

(5) Residents who are acting ... of non-residents for collection ... of properties owned by non-r... and accept such rents on b... non-residents, contravene Sec... (b) of FERA, 1973. However, as the resident remits the am... the non-resident ordinary ac... the property owner with an au... dealer, within two months of ... contravention under Section ... would be regarded as technic... will issue a notification to th... shortly so that no action is take... Enforcement Authorities for t... travention of this sub-sectio...

(6) A non-resident who rece... rents from his property in I... required to credit the proc... his non-resident ordinary a... maintained with an authorised ... in foreign exchange. Such a... can also be opened as a joint ... with a resident. If the reside... first degree relative, i.e. son, ... uncle, sister, aunt, nephew ... daughter, father, mother, mo... law, father-in-law of the non-r... such joint accounts can be ope... authorised dealers themselve... other cases, where the resident ... holder is not a first degree relat... opening of such account requir... approval of the Reserve Bank o... Operations of the account ... resident account holder ca... allowed freely. Operations ... non-resident should, howe... conducted in accordance wi... provisions of Chapter 27 of t... change Control Manual. The ... can also operate on a non-r... account provided he has obta... power of attorney in his favour ... by the non-resident account ... Such operation by the power o... ney holder should be in te... Regulations laid down in Cha... of the Manual. For any further ... the non-resident or the power ...

may contact the Reserve
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ted on properties may be
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the terms of tenancy. This
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ent, may be credited free-
re is no need for the first
ny change in the terms of
o be approved by the Re-
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strial Growth and rsification

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eel Plant with Latest ogy

million tonne, Soviet-aided
or coastal steel plant to be
Visakhapatnam in Andhra
will incorporate the latest
teel technology available in
Union. The technological
of the plant, finalised by the
el Ministry after detailed
ns between the Indian and
l agencies will mark a major
over steel-making practices
n use in the country.

sakhapatnam plant will have
ubic metre blast furnace in
1.2 million stage. Another
f the same size will be set up
l three million tonne stage.
e first time that blast fur-
his size will be installed in
ry. Currently, the largest is
2,000 metre furnace. Soviet
e foremos. today in steel
echnology—has successfully
these large-size furnaces
operating well in the Soviet
plants. Apart from making continuous tapping of hot metal possible, the large-size furnace is expected to reduce coke rate by three to four percent and capital cost by eight percent. Setting up of larger blast furnaces will also help in updating the available technology.

Another novel feature will be the continuous casting of blooms and billets with eliminates the ingot casting stage and also the need for blooming and billet mill complex, leading to substantial saving in capital costs.

The Universal Beam Mill, to produce what are known as wide and parallel flange beams used for construction in Railways, ports, bridges and the like, will be another outstanding feature. Steel plants in many advanced countries have already switched to parallel and wide beams and in India, these sophisticated products will for the first time roll out of vizag.

The rolling mills of the Visakhapatnam plant will be equipped with modern facilities to roll light and medium merchant products, structural, wire rods as also angles, channels and beams required by the Electricity Boards, Railways and engineering fabricators. It is also proposed to utilise to the maximum possible extent the capacity of the indigenous manufacturers in the supply of structural and equipment. The plant's requirement of fabricated structurals is estimated at 400,000 tonnes. For the heavy machine building units and equipment fabricators. Visakhapatnam will thus be an opportunity and a challenge.

Unprecedented Production of Railway Coaches

For the Integral Coach Factory (ICF) at Perambur (near Madras), the year 1978-79 has been one of unprecedented production and record exports. ICF achieved an all-time record out-turn of 752 coaches and electrical multiple units during 1978-79 againts the target of 750.

The value of the out-turn during the year is estimated at 451.1 million as against the turnover of Rs. 384.4 million during the preceding year.

During the year, three export orders to Philippines, Uganda and Taiwan of a record value of Rs. 65 million were completed.

In 1979-80, production is targetted at 710 coaches, which includes 50 coaches to Vietnam for export, besides more EMU formations, double deckers, more air-conditioned coaches, padded cushion sleepers, etc., for domestic use.

The ICF is observing the year 1979-80 as 'ICF Quality Year' to achieve further improvement in quality, reduce rejections and achieve 'zero defect'.

All-Time High Tractors Out-turn

Production of agricultural tractors in the country touched an all-time record of 54,660 tractors in 1978-79. This was an increase of 33 percent over the production in 1977-78.

The Union Ministry of Industry recently reviewed the position of the tractor manufacturing units in order to implement measures for further increasihg indigenous production. This has been necessitated by the increasing demahd for tractors and the need for augmentihg facilities for after-sale service and repairs for farmers in rural areas.

It has bee n estimated that production of tractors would reach a level of 65,000 durir g the year 1979-80. Special measures are beirg taken to provide essential inputs to the tractor manu fac-

turing industry. After-sale service would also be augmented.

Major tractor manufacturing units have agreed that the guarantee period of their product would be increased from six months to one year.

The rising trend of production is being maintained over the peak production of last year. In April-May, 1979, production touched a level of over 10,000 tractors as compared to 8,000 tractors in the corresponding two months of the previous year, registering an increase of 27 percent.

Record Mineral Exploration by MEC

The Mineral Exploration Corporation (MEC), a public sector undertaking under the Union Ministry of Steel and Mines, exceeded the targets of drilling and exploratory mining fixed for the year 1978-79. A record of 187,163 metres of drilling was done during the year 1978-79 as against the annual target of 183,700 metres. This is 53,545 metres more than 133,618 metres of drilling done during 1977-78 an increase of over 40 percent.

Drilling was done for coal in West Bengal, Bihar, Madhya Pradesh and Maharashtra on behalf of the Coal India Ltd., for copper in Madhya Pradesh on behalf of Hindustan Copper Limited (HCL); for bauxite in Orissa and Andhra Pradesh; for limestone in Meghalaya and for chromite in Orissa.

About 22,901 metres were drilled with 130 rigs during March, 1979 alone, with an overall output of 176 metres per rig month. This is the highest record of drilling so far achieved in any month since MEC started field operations about six years ago and is 5,691 metres more than the last highest of 17,210 metres achieved during March, 1978—registering an increase of over 33 percent.

The output of 1,035 metres by one rig in the Bharat Coking Coal Limited (BCCL) area during March, 1979 was the highest ever productivity recorded so far in mineral exploration in the country.

MEC has also exceeded the target of exploratory mining stipulated for the year 1978-79. It carried out 8,270 metres of exploratory mining during the year against the target of 7,900 metres, exceeding the target by about 5 percent, and as against 6,389 metres of exploratory mining done during the previous year, 1977-78—showing an increase of about 30 percent. Exploratory mining was done for copper, lead-zinc, iron ore, bauxite and manganese.

Record exploratory mining of 1,046 metres was done during March, 1979. This is the highest exploratory mining so far achieved in any month since MEC came into being about six years back and is 132 metres more than the last highest of 914 metres achieved during the month of January, 1979-showing an increase of over 14 percent.

Further Developing Inland Water Transport

The Union Ministry of Shipping and Transport has earmarked over Rs. 110 million for development of Inland Water Transport (IWT) during the current financial year. It has decided to set up a central technical organisation to give proper guidance to the State Governments in preparation and execution of their schemes concerning development of inland water transport. The organisation will also undertake studies of the latest developments abroad and introduce them in the country.

The Ministry has also decided to obtain the services of experts from Netherland and UNDP. A Dutch expert has already visite assess the assistance requi development of IWT on cer ways. Another team of expected this year for of detailed schemes for of IWT.

A consultant is to be ap prepare the project servic Haldia and Farraka. Th group on IWT report on th of IWT service has recom provision of Rs. 25 milli 1978-79 for building up of ture facilities and river m To start with, a sum of Rs. 0 has been provided for works during the year. Th has also decided to resume ri between Calcutta and Ass had been discontinued last to uneconomic operations.

A provision of Rs. 3.5 milli been made for carrying out studies and feasibility repor laring some of the important as national waterways. Hyd surveys of important water already been undertaken in nection. The working gr recommended a provision o million for it during the e period.

For research and developmen Rs. 0.4 million have been e For this, the Central Inla Transport Corporation w out the work in cooperation Central Water Power Researc Pandu and Jogigopa Ports in get Rs. 36,000 each for de and maintenance purposes. and new centrally sponsore will cost Rs. 2.96 million.

A provision of Rs. 2 million made to provide financial ass easy terms to private partie chasing mechanised inland v

of country boats. The dy will apply on loans up ion.

nces Issued

linistry of Industry issued licences and 23 letters ing the month of April, 11 licences were revoked, ancelled under the pro- Industries (Development ion) Act, 1951. Three ent were cancelled and

the manufacture of which were issued during the ed M.S. rounds and bars, itors, telephone instru- le spokes and nipples, ickshaw hubs, fly-wheel ffice gum paste, sulphuric sh, viscose staple fibre, nd leather footwear.

r which letters of intent included ferrechrome, phone dials, hydraulic bly sets, clutch plates, per machines, sulphuric n machine-tool accessories, thromycin stearat tablets, phosphate tablets and nent.

g Standardization Industry

the annual report of the dards Institution (ISI) ncial year 1977-78, the ad in force, on March 31, Indian Standards covering e of materials, industrial ural products, test methods or design and construction This achievement reflects the cooperative endeavour n 32,000 technical experts on some 2,100 councils tees of ISI. These experts from Central and State Governments, industrial establishments, commercial organizations, and research and educational institutions in the country.

Realizing the importance of making the best use of Indian Standards, concerted efforts were made by the Institution to promote implementation of standards on a wider scale, with a view to building up a competitive industry, reducing cost of production, attaining self-sufficiency, improving quality of goods and services, and developing export trade.

The ISI Certification Marks Scheme, which provides a proving ground for implementation of standards, registered considerable progress during the year. By March 31, 1978, 6965 licences were granted covering goods valued at Rs. 16,000 million a year. A number of consumer items were brought under the Scheme including saccharine, malted milk food, rubber mats of electrical purposes, household electrical appliances, fire fighting pumps, multipurpose dry batteries, piston rings for internal combustion engines, hypodermic syringes, steel ingots and billets and steel wires for the manufacture of wood screws.

To promote adoption of standards in farms and factories and in the market place, an effective system is required for making readily available reliable information on various aspects of standards to numerous users to see that they receive maximum guidance from this national resource in the matter of production, planning, management and marketing. The Institution is engaged in developing a computer-based standards information system with the help of the Electronics Commission to meet this need. During the year, the computer terminal project made satisfactory progress.

The Institution continued to organize training programme with the object of equipping the manufacturers with the techniques of quality control so that they could be authorized to use ISI Certification Mark on their products. Training programmes were arranged for manufacturers of household electrical appliances, tea-chest battens and plywood, diesel engines, food colours, LPG cylinders electric motors and pesticides. These programmes led to wider adoption of the ISI Certification Marks Scheme and its smooth and efficient operation.

During the period under review, the Institution established a new Division Council for Petroleum, Coal and Related Products. The Council is the eleventh in the chain of high-powered technical bodies constituted by the Institution to guide development of standardization activity in specific fields of industry. The new Division Council has been created because of the increasing emphasis on coal as a primary source of energy and the importance acquired by petroleum not only as a fuel but also as a basic industrial raw material. With increasing quantities of petroleum becoming available both from inland and offshore sources in the country, far-reaching developments are envisaged in plastics, fertilizers and general organic chemicals industries. It is hoped that the new Division Council would play a significant role in making available expeditiously national standards urgently needed in this growing and vital area.

Simplified Tariff Procedure

When excise duty under tariff item 68 was increased from 2 percent to 5 percent *ad valorem* in the 1977 budget, all excisable goods manufactured out of goods falling under that item were exempted from so much of the duty of excise leviable on them as was

equivalent to the duty of excise already paid under it. The exemption was restricted to the duty payable on the finished goods when the duty paid on the 'inputs' was more than that on the finished goods.

The trade had been earlier experiencing difficulties in availing of the set-off of duty in relation to those finished excisable goods which had not been notified under rule 56-A of the Central Excise rules. The difficulties were aggravated where innumerable varieties of finished excisable goods were being manufactured and in the manufacture of which goods falling under tariff item 68 were used, not necessarily in relation to any fixed formula, but in a particular ratio that can change from time to time and from variety to variety.

Some of the industries that had expressed difficulty on this account were tyres, chemicals, electrical manufactures and grinding-wheels. On account of the innumerable end products and the varying ratios, with alternative usages, manufacturers were finding it difficult and irksome to furnish the 'input' and 'output' ratio that would remain constant and be acceptable to the Department.

For claiming set-off of duty paid on tariff item 68 furnishing of the 'input'-'output' ratio was necessary as at the time of claiming the set-off while clearing the finished goods the manufacturers had to satisfy the Central Excise Department about the exact amount of set-off sought to be claimed with reference to the duty paying documents under which the 'inputs' had been received.

The Government has given considerable thought to alleviating these difficulties. And, now, as a measure of facilitation the procedure for claiming this exemption has been substantially simplified. Under the revised notification issued on June 4, 1979, the cumbersome 'set-off' procedure has been given up, and a self-contained procedure for claiming the exemption has been prescribed. This procedure is basically on the lines of the proforma credit system prescribed under rule 56-A of the Central Excise rules, 1944.

It is hoped that with this major procedural simplification the problems of the trade and industry being faced earlier in availing of this exemption would be fully resolved.

Relief to Electronic Industry

As a measure of relief to the indigenous electronics industry, the import duty on Polyletra fluoroethylene (PTFE) moulding powder/granules has been reduced from 145 percent to 45 percent *ad valorem*. The duty on PTFE tapes has been reduced from 230 percent to 75 percent *ad valorem*.

These exemptions came into effect from June 2, 1979.

The above concessional duty is available subject to the condition that these items are imported only for the manufacture of PTFE insulated cables and wires.

The PTFE insulated wires and cables are generally used in electronic industries, particularly for defence, P&T, Space and civil aviation electronic equipment/systems.

Processed Scrap covered under IDR Act

Industrial undertakings already engaged in the processing of scrap and ship-breaking, which do not already have industrial licences, are required to obtain carrying-on-business licences within a period of six months from June 13, 1979. In a Press Note, the Department of Industrial Development, Union Ministry of Industry, has advised interested parties to apply to the Secretariat for Ind... provals, Department of ... Development, in the presc... for this purpose.

Ferrous melting scrap is the ba... material for steel making ... electric arc furnace units. B... scrap is recycled in the fu... undergoes processing. The m... processing leads to alteration ... shape and physical compsitio... scrap. The processed scrap, s... ed, has advantages like easier ... tation, handling and use ... arc furnace etc. Scrap p... is not organised on sound lin... country at present.

Ferrous processed scrap, in... what is obtained through ship... is covered under item I.A.(... First Schedule to the Industr... lopment and Regulation) A...

Laminated Jute Bags from Excise Duty

The Government has exem... immediate effect, laminated ... falling under Item No. 6 ... Central Excise Tariff from ... of the excise duty.

A number of representatio... received by Government b... manufacturers of laminated ... and fertilisers urging Gove... exempt these bags fro... duty leviable thereon at ... of 8 percent *ad valorem*. I... presented that more than 8... of the bags are used for pack... sers and that imposition ... duty on the bags would in... price of fertilisers, thereby ... down the excise duty concess... ded to fertilisers in the 1979 ...

After careful consideration o... raised in the representati... mitted in this behalf and ... view the Government's ...

rn the prices of fertilisers, decided to completely ated jute bags from excise

ds for Steel R&D

esearch and Development ng 1979-80 will be sub- re than in the previous vision of Rs. 63.3 million luded in the Plan Budget t year as grant-in-aid to thority of India Limited R & D activities. This is 0 million more than the Rs. 23.2 million during

e in outlay this year has compared to the provision million in 1977-78. The rovision was Rs. 8.315 976-77 and Rs. 5 million ding year.

umber of institutions have R & D work of relevance to dustry, an analysis of the ns of the requirements of would indicate that the t over the past years had ely small. It has, therefore, d to expand and support much larger scale in the ars so as to reduce the cost and enhance value of ts through indigenous pro- ements and new technlogy. be essential in an industry anging technology renders processes and production solete very quickly.

h and Development Centre set up five years ago to & D activities for SAIL, ow being developed into d R & D Complex, imple- number of projects during The manufacture of High ow Alloy (HSLA) steels ercial scale was undertaken for the first time in India at Rourkela Steel Plant and 8,900 tonnes of this was supplied for the expansion of Bhilai Steel Plant, saving Rs. 30 million in foreign exchange. The computerisation of billet cutting operations at Bhilai through indigenous equipment led to an increase in billet yield by about 0.5 percent. Work is currently on for the introduction of new technology like pre-heating of coal and briquet blending in coke making practice to reduce prime coking coal consumption and the development of special quality steels to diversify products.

The scheme for coal dust injection to reduce coke rate has reached an advanced stage and the coal dust injection plant is expected to be commissioned at Bhilai by 1981. A protocol was signed in August, 1977, between Bhilai Steel Plant and the USSR for the design and supply of the plant.

A pilot plant is being set up by the Centre at a cost of Rs. 47.8 million for the development of the rotary kiln direct reduction process for the production of sponge iron by using non-coking coal. It is proposed further to consider using technology based on coal gas for sponge iron.

The proposal to set up a full-fledged laboratory complex at Ranchi at an estimated cost of Rs. 151 million has been approved by the SAIL and is under consideration of the Government. This will enable the R & D Centre to undertake diagnostic analysis of research programmes before these are introduced in the steel plants on a commercial scale. So far R & D is concentrated on developing projects, with facilities and manpower available at the plants and other laboratories. No major equipment was parchased and the pace of work had been affected by lack of research laboratory facilities. Out of Rs. 63.3 million for 1979-80, Rs. 10 million is for purchase of equipments for the laboratory complex at Ranchi.

An Information and Documentation Centre will be set up, at a cost of Rs. 18 million, along with the laboratory complex. Four site offices have been started at Bhilai, Durgapur, Rourkela and Bokaro, specialising in different areas of steel technology.

Science and Technology

India's Second Satellite in Space

The second Indian Satellite 'Bhaskara' was launched into earth orbit from a Soviet cosmodrome on June 7, 1979. This experimental satellite which is carrying out remote sensing experiments over India using TV cameras and microwave radiometers was injected into a near-circular orbit at a height of 526 km and having an inclination of 50.7 degrees.

Bhaskara is carrying out earth observation expertments for applications related to forestry, hydrology, snow-cover and snow-melt, geology, soils, land use and ocean surface studies. About 20 user agencies are involved in experiments for use of data from Bhaskara. In addition to the primary instruments for earth observations, Bhaskara also carries a number of secondary experiments. These include qualification of Indian developed solar cells, thermal paints, and heat pipes for space use, an X-ray paylead for studies in X-ray astronomy and a Data Collection Platform experiment which will relay meteorological data collected by remotely located platforms via Bhaskara to a central ground station from where the data will be sent to the India Meteorologcal Department (IMD).

The launching of Bhaskara following the

earlier orbiting of Aryabhata, marks yet another important milestone in Indo-USSR cooperation in Space Research. The launch was carried out under a cooperative agreement between the USSR Academy of Sciences (AS-USSR) and the Indian Space Research Organisation (ISRO) signed in 1975.

Bhaskara spacecraft has been working satisfactorily and the health parameters have been studied in detail from the data received from the ground stations at Sriharikota, Space Applications - Centre, Ahmedabad, and Bears Lake, USSR. The temperature of the spacecraft is within the limits and all the house-keeping subsystems, viz, telemetry, telecommand, power systems, attitude control system and sensor systems have been working satisfactorily.

Bhaskara incorporates many additional technological features which are of importance to future Indian remote sensing satellites. The basic structural configuration of Bhaskara, however, is the same as of Aryabhata, India's first satellite, with a view to utilise its infrastructure and tooling to a maximum extent.

While Aryabhata had only provision to spin up the spacecraft, with no mechanisms to control its spin rate, Bhaskara incorporates additional components like pressure regulators, solenoid valves, and relief valves to control the spin rate between 6 and 11 rpm for ensuring desired overlapping of successive picture frames during photo graphing of earth by TV cameras and also to orient the spin axis along the normal to the orbit plane. In order to control the spacecraft better during its spinning, additional control elements like magnetic bias control system and Nutation, Dempers were also added. For operation of shutters of TV camera, a horizon crossing sensor is included to provide the pulse information when the cameras are vertically looking down towards the earth. A high bit rate telemetry system at 91.39 kilo bits per second is also added to send the TV picture data to earth in addition to the low bit rate telemetry at 224 bits per second that existed in Aryabhatta. The spacecraft uplink system of pseudo random coding type is more advanced than that of Aryabhatta, and has far more capability in terms of number of commands, to guard against spurious and false commands and flexiblity for adoption to future missions.

Bhaskara is one of the most illustrious names in the field of ancient Indian astronomy. There were actually two Bhaskaras recognised for their most significant contributions in this field. Bhaskara I was a leading astronomer of the 6th Century and a contemporary of Brahmagupta. Bhaskara II was one of the most impressive Indian astronomers and mathematicians. He was born in the year 1114 A.D. in the city of Vijjadavida (Bijapur in Karnataka State).

Bhaskara, similar to Aryabhatta in appearance, is a polyhedron with 26 faces and measures 1560 mm in height and 1590 mm in equivalent diameter and weighs 444 kgs. The body of the satellite is covered with solar cells on its external surface for generating power required for the operation of the satellite.

The satellite's main body has three parts consisting of a top shell, a central deck plate, and a bottom shell made of special aluminium alloy. The central deck plate carries the major portion of the satellite equipment housed in a frame-work. The bottom shell is fitted with nitrogen gas bottles, associated plumbing and pneumatic components, which are actuated by ground command to maintain the spin rate and to orient the spin axis to point towards the earth for ph

The instruments housed i are basically of two types, tain the operational req the satellite and the othe the experiments planned. ments to maintain the sa ations include power ge distribution system, tele link, telecommand uplink, satellite control system. T ature inside the satellite is between O and 40 degrees passive thermal control s thermal paints.

The power generated by is used to feed the variou side the satellite as well as the chemical batteries, w power when the satellite is i shadow. Using the teleme the data from the satellite mitted to ground at two using separate transmitters, rate transmitter being us transmission of satellite microwave radiometer da high bit rate transmitter f picture data. During the p satellite over the Indian grou commands are given from the satellite for carrying o operations such as switchin rol of various systems on th The satellite has provision commands in automatic m when it is not in contact ground stations. The satell stabilised in orbit by empl trolled gas jets which are a orient the spin axis perpen orbit plane within 3 degre tion.

The primary payloads, na TV cameras and the Satelli wave Radiometer (SAMIR) remote sensing experiments

oad consists of two TV cameras, for imaging in visible range (0.54 .66 micron wavelength) and the r in the near infrared range (0.75 .85 micron wavelength). The cam- look through the cut-outs provided ie central region of the spacecraft their optical axis at right angles ie spin axis maintained perpendi- r to orbital plane. When the satel- rotates about its own axis and moves ard, the cameras are exposed by ning mechanical shutters as the eras look vertically down towards earth once in every spin. The TV em is operated only during day e when the staellite passes over the ian sub-continent by giving com- nds from the ground station. Each ture frame obtained covers a ground a of 341 km x 341 km with a re- ution of 1 km. The pictures from TV eras are utilised for obtaining in- nation on resources especially re- d to forestry, hydrology, snow-cover l large water and land masses. ce the same area is photographed der similar solar illumination con- ions once every 50 days, such pictures o provide information on the tempo- variations of these resources which n be very valuable.

indigenously developed heat pipe mounted on the top shell of the satel- to evaluate its performance under ightlessness and other environ- ntal conditions of space. Its quali- ation will establish indigenous tech- logy for thermal control applications future satellite programmes. An- er experiment aims at the evalu- on of the effect of space environment indigenously developed black and ite thermal paints. Indigenously veloped solar cells (by the Bhaba omic Research Centre, Bombay and e solid-state Physics Laboratory, elhi) are mounted onboard the space- aft to test their space-worthiness. The ground stations, one located at Sriharikota and the other at Ahmedabad are planned for the Bhaskara mission. The ground stations have facilities for telemetry data receiption, telecommand transmission and tracking.

The satellite project was executed under the overall management of ISRO Satellite Centre (ISAC), Bangalore. The design and development of spacecraft mainframe subsystems and integration of the total spececraft and its checkout were carried out at ISAC. The design and development of the two primary payloads as well as the establisment of facilities for generation of data products for TV and SAMIR and the users interface were carried out by the Space Applications Centre (SAC) at Ahmadabad.

The contribution of Indian organisations to the successful completion of the satellite development has been significant. Major contributers include : Hindustan Aeronautics Limited, Bharat Electronics Limited, National Aeronautical Laboratory, Controllerate Inspection of Electronics, Central Machine Tools Institute, Electronics Corporation of India Limited, Hedge and Golay Limited, Bhabha Atomic Research Centre, Hindustan Machine Tools Limited, Indian Institute of Science, Indian Institutes of Technology, Indo-Burma Petroleum Company and Indian Telephone Industries.

As in the case of Aryabhatta, Soviet experts were involved in a number of technical discussions during the progress of the project. In addition to providing launching facility, the Academy of Sciences of USSR also supplied solar panels, thermal paints, tape recorders, batteries and gas bottles for the satellite. USSR also set up a special ground station at Bears Lake near Moscow for the reception of the telemetry data from the satellite. The equipment for commanding the satellite has been installed at this station by ISRO and the commands are sent to the satellite by the Indian scientists.

India Urges Positive Economic Cooperation at UNCTAD-V

Speaking at the Fifth General Session of the United Nations Conference on Trade and Development (UNCTAD) in Manila recently, Mr. Mohan Dharia, Union Minister of Commerce. Civil Supplies and Cooperation and the Leader of the Indian Delegation has stated that the policies pursued by developed countries in the areas of trade, development, money and finance have not adequately recognised the interdependence of these issues, with the result that positive measures taken in one field have often been nullified by inconsistent actions in others. Thus, while attempts have been made through the introduction of the GSP to promote the trade of developing countries, these countries have been denied the opportunity of reaping their full benefit because of the protection afforded to uncompetitive sectors in developed countries. Likewise, the object of international resource transfers to developing countries, admittedly inadequate, has been defeated through adverse changes in their terms of trade. Again, the transfer of technology, skills and finance to developing countries for assisting their industrialisation has been jeopardised through protective trade policy measures. The environment for investment and development is adversely affected by constantly fluctuating exchange rates. These conflicting policies have greatly frustrated the developmental efforts of developing countries. It is necessary to impart a universal character to the process of consultation. In considering, therefore, structural changes in the economic system ,it

would be essential to set up a mechanism under truly international auspices which would ensure continuous formulation and coordination of mutually supportive policies in different sectors having an impact on growth in the developing countries.

A feature of the present system which has been disruptive of the long-term growth process in developing countries is the increasing recourse to *ad hoc* and short-term expedients in preference to the adoption of long-term measures which would help in creating an equitable system more responsive to their evolving needs. Another serious weakness of the system has been the minimal role which the developing countries have in the decision-making process. It is inconceivable that meaningful progress can be made in creating a New International Economic Order (NIEO) aimed at bettering the lot of the developing countries without their active involvement in the processes which would usher it in. Major decisions relating to policies of growth, control of inflation, demand management, trade policy and monetary problems affect the developing countries directly and ought not to be taken without their full participation. He has pleaded that the democratisation of the process of international decision-making on all economic issues is a central element of the NIEO.

The recent agreement on the fundamental elements on the establishment of a Common Fund is a step forward. It is to be hoped that the details of the Fund would be so designed and its operation so regulated that the Fund really becomes an effective instrument for restructuring international commodity markets and promoting the commodity trade of developing countries as envisaged in the Integrated Programme. It is hoped that the Fund would be endowed with enough flexibility for modifications to be made, including in its capital base, to meet its emerging requirements consistent with the vital role it has to play. Great importance is also attached to the activities of the Fund which relate to measures other than bufferstocking. As a measure of her support, India would be willing to make a voluntary contribution to the Fund's second window. It is hoped that all developed countries will come forward with substantial contributions to enable the Fund to function effectively and trust that it would be possible to set it up by the end of this year.

The Minister has expressed acute disappointment at the very slow progtess in the conclusion of Commodity Agreements, especially those relating to some of the weak commodities produced by the poorer countries. It has been a most distressing experience to discover at some of the preparetory meetings that even the undertaking of studies in relation to problems besetting commodities has been opposed, and that, sometimes, in the face of self-evident data, the very existance of commodity problems has been denied. There is need for a more constructive attitude on the part of the developed consuming countries to the whole issue of Commodity Agreements . It is hoped that with the Common Fund Coming into being, renewed efforts would be made to conclude Commodity Agreements within the shortest possible time and in conformity with the objectives of the Integrated Programme.

The Minister emphasised that one of the most important areas where the hopes and aspirations of the developing countries are yet to be fully realised is the reform of the world trading system. The Multilateral Trade Negotiations MTN have now reached a stage of nearconclusion. While it is perhaps too early to evaluate fully the results of these negotiatons, it is clear that they do not adequately reflect the conce developing countries. Particula cern at some of the obvious and g shortfalls in the field of sa rds, quantitative restrictuons the nature and extent of tariff need to be expressed. Certain cepts have been sought to be duced in the Safeguards Code su selective application which would cally be used as a barrier to th ports of developing countries. In it seems that one of the car principles in the new trading syste to be that no developed country place the trade of a developing co at a disadvantage compared to trade of another developed cou The results of the Multilateral T Negotiations would be as to inadequate unless an objective transparent Safeguards System ject to strict surveillance emerges these Negotations. Similarly, it matter of cancern that in some a there are two Codes emerging– having the support of developing co tries and the other largely subscri to by the developed world. Surely, such systems cannot be envisaged they need to be harmonised. It also disappointing that there h been no solutions to the quantitat restrictions faced by the exports of de loping countries especially in sectors which they have acquired competiti capability. Discriminatory restrictio in the textiles sector were not ev discussed in the Multilateral Tra Negotiations. These sectors have a by and large received minimal tar cuts. In India's view, this Conferen should decide that these deficienc should be made good before th MTNs are formally closed.

A matter of very serious concern is th increase in protectionist measure adopted by the developed countri especially against the exports of dev loping countries. The list of produc

restraints is growing ever
he manner of imposing such
is assuming newer forms,
l amazing that this should
en exports of manufactures
ing countries to developed
count for only 7.5 percent
al import, and hardly 2%
nsumption of such manu-
d that too when developed
nd outlets for 30 percent of
ts of manufactures in deve-
ountries. Such protectionist
sought to be justified on
f protecting domestic emp-
But what about the impact
yment in the developing
For every job retained in
countries, many more are
e developing countries. The
pursuit of such policies raises
out the very commitment of
suing them to the establish-
n equitable economic order,
one can well imagine the
ressures for action that such
n is bound to evoke in develop-
tries. What is more, the
ice of such protectionist
would not only inhibit anti-
ry growth and efficient re-
ent of resources, but shall go
ie very interest of the develop-
ies themselves. The develop-
tries constitute an important
or the products of the develo-
tries, but their capacity for
n would be severely eroded if
port earnings are curtailed
protectionist action. It is in-
ensible that developed coun-
ould continue to persist in
asures which not only disrupt the efforts of developing countries to improve the well-being of their people but also jeopardise the developed countries own interests. The only constructive approach to these problmes is to accept and adopt policies to induce positive adjustment.

Technology is one of the key levers for transformation of developing countries. Such transformation could be brought into being only if those with greater technological capabilities display a readiness to assume their international responsibilities and obligations. It is believed that this Conference will resolve the issues that have hitherto stood in the way of a successful finalisation of the Code on Transfer of Technology. India, on her part, will be prepared to play a positive and constructive role in this process.

The reform of the present monetary system and a massive transfer of real resources to developing countries on concessional terms are some of the essential pre-requisities for a structural transtormation of the present system. The monetary system should be so designed as to promote the expansion of world income, employment and trade particularly of the developing countries, the preservation of the real values of their reserves and export earnings, the creation of a favourable climate for growth and investment and the provision of necessary financing in favour of developing countries. In the field of resource transfers, it is essential to adopt mechanisms which would ensure their continuity, augment their volume and improve their quality, with special attention to the needs of low-income developing countries.

India on her part is willing to make its full contribution to these efforts. It is proposed that a fresh round of tariff negotiations among developing countries be launched and India would be willing to participate on the basis of up to 50 percent tariff concessions on selected products of interest to developing countries and having a substantial trade coverage on a mutually advantageous basis. Preferences would also have to be extended to non-tariff sectors and new mechanisms devised for translating the improved access into additional trade flows. Whatever technological capabilities India has acquired, she is willing to share with other developing countries. India is already providing and would be prepared to expand facilities for training personnel from developing countries in her various institutions. There are over 100 Indian joint ventures functioning in other developing countries in the fields of engineering, chemicals, construction and consumer goods and others are in the process of being set up. India's firm policy is that joint ventures wherever they exist should be symbols of friendship and cooperation and should not be permitted to become centres of exploitation. Moreover, they should also fit into the development priorities of the host countries and contribute towards strengthening their industrial base, Mr. Dharia said.

Regd. No. D

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1—9, 1979
Damascus International Fair, Damascus (Syria)	July 4—23, 1979
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979.
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25—29, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

Highlights

ting Indo-Polish Cooperation

int Communique issued on the on of the recent visit to Poland Prime Minister of India, Mr. Desai, has emphasised the need ermination to ensure further ng and diversification of bilateral ic and trade relations guided by g-term agreement on economic, al and technological cooperation n the Governments of India and . The Indian and Polish leaders ed their particular satisfaction e substantial growth of cooperation fields of mining and power, ship- g, machine building and aviation ies. They welcomed the favourable ment of cooperation in culture, and technology and other fields. the visit, an agreement was providing for cooperation in the health.

thening Indo-Czech mic Ties

elegations of India and Czechoslo- valued highly the role of the Joint ittee on Economic, Commercial echnological Cooperation and confident that the deliberations of

(*Contd. on page* 2)

Export Performance and Potential

Substantial Orders for Engineering Goods from EEC

According to the Engineering Export Promotion Council (EEPC), Indian engineering firms bagged orders worth Rs. 25.54 million from some of the delegates of European Economic Community (EEC) countries attending a seminar on Trade and Industrial Cooperation between India and EEC countries held at New Delhi recently. Further orders from other EEC delegates are in the pipeline.

One of the Dutch delegates has approached its Indian counterpart with the proposal for a joint marketing venture in Holland. The Dutch firm would provide warehousing space, sales team and operational cost while the Indian firm's contribution would be to supply the products identified by the Dutch delegate. Some Indian firms are also negotiating transfer of technology with their EEC counterparts.

The seminar was organised by EEPC and its participants included 81 EEC delegates and about 250 representatives from engineerin trade and industry, Reserve Bank of India, Industrial Development Bank of India, Export Credit and Guarantee Corporation, Association of Indian Engineering Industries, Federation of Indian Chambers of Commerce and Industries, Banks, senior Government officials etc.

The main objectives of the seminar were :

(1) To acquaint EEC buyers with :

(a) Export capabilities of Indian engineering enterprises in various products areas—firstly by visits to exhibition stalls and subsequently to production units in different places ;

(b) Types and nature of giant projects at home or overseas being

the Committee's forthcoming 8th session would make a concrete contribution to the strengthening of all round cooperation between the two countries. This is stated in the Joint Communique issued at the end of the recent visit to Czechoslovakia by the Prime Minister of India, Mr. Morarji Desai. The two sides agreed to add yet another dimension to the existing economic, commercial, scientific and technical cooperation through new features such as production co-operation and collaboration in third countries.

Engineering Training in India Lauded

A batch of 120 Tanzanian engineers, who completed a four-year course of training recently in India expressed appreciation of the existing training facilities. On their arrival at Dar-es-Salaam, they stated that the training arrangement and environment in India were most appropriate for Tanzanian technological requirements.

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undertaken by Indian firms on a turnkey or sub-cor basis ; and

(c) Types of plant and equipment being manufactured i under licence and technical know-how from world re manufacturers of the USA, Europe, etc. for supply to at home or abroad.

(2) To exchange ideas and explore with EEC buyers and prin tractors possibilities of :

(a) sourcing out their requirements in India ; and

(b) their associating Indian firms in third country projec sub-contracting basis.

(3) To exchange ideas with EEC industry and trade represe on the evolution of trade cooperation in concrete ter basis of complementarity and mutual trade interests ; ar

(4) To apprise Indian exporters about the export prospects in E to suggest as to how to approach EEC market.

Before the commencement of the seminar, EEC delegates were take the Third Engineering Trade Fair held in New Delhi, with a v enabling them to have a first hand knowledge of what India is now to offer to the world market. During the seminar, well-documented ground papers covering latest information about the engineering in its present level of export, areas in which Indian firms are undertaking both industrial and civil engineering projects abroad where Indian firms are putting up joint venture projects abroad, G ment policies for investment and framework of India's industrial I in relevant sectors, etc. were made available to all delegates. the seminar, the Council organised meetings of individual EEC de with Indian firms of their product/project interest in different inc sectors in India. The delegates also taken around IMTEX' 79 chine Tool Exhibition) in Bombay.

Exposure of the European industry executives to the industrial infrast and possibilities of trade and industrial cooperation that Indian engi industry offers today, created a tremendous impact as is eviden letters received from various EEC delegates after their return. The gates have expressed praise for the industrial development in the engineering sector, of which they had little knowledge before com India. According to the reports received from the Secretary-Ge European Committee for Small and Medium sized Industry, Br almost all European participants made a real discovery of trade pro of which they had little knowledge before their coming to India. I their visit many delegates have reportedly established useful contacts Indian manufacturers of their product interest. According to them, th tacts established would, in due course, materialise in substantial bus

The Council organised intensive micro follow-up work at individual I delegate and EEC delegate level. In EEC countries, the Council's o in Dusseldorf and London are in regular touch with EEC delegate at the Indian end, the Council's offices in India are constantly in with the Indian firms whom EEC delegates met during their visit to I The objective of this follow-up study is to assess the outcome of the se and also to identify for further action points/measures to be taken to exp the process of negotiations. As a result of the follow-up, some EEC gates are again visiting India for finalisation of contracts or

her discussion with the Indian nterparts.

; Belgian delegats are reported to e booked orders with Indian firms the supply of bicycle parts worth 240,000 ; and surface grinder ling machines valued at Rs. 182,000). e orders by UK delegates relate to ply of TV transformers (Rs. 6.8 lion) and pumps (Rs. 28,000) and trial order for manhole covers. ostantial orders have been placed West Germany for a number of ns, such as machine power pulley cks (Rs. 760,000), vehicles and ay plants (Rs. 5 million) ; bicycle ts (Rs. 4 million); universal tool l cutter grinders (Rs. 38,090); elec- nic tested measuring instrument l power system (Rs. 1 million); wer supplies electronic inverters(Rs. 0240); auto parts (Rs. 1.9 million) l fasteners (Rs. 1 million).

eavy Industry Units Bag ibstantial Export Orders

blic sector units under the control of e Department of Heavy Industry gged export orders of the value of s. 342.30 million during April, 1979.

he major portion of the orders has ne to Engineering Projects (India) imited. The unit has secured an der from Iraq for the construction Rs. 329.10 million building complex r the Iraqi Council of Ministers in aghdad.

he units together executed export rders worth Rs. 155.80 million uring the month which is more than ouble the amount of Rs. 72 million xecuted by them in the corresponding nonth last year.

Export orders in hand with these units n April 30, 1979 amounted to Rs. 250.80 million as against Rs. 7957.60 illion at the end of April, 1978. A najor part of these orders is with Engineering Projects (India) Limited (Rs. 5782.20 million), Bharat Heavy Electricals Limited (Rs. 2736.1 million) Heavy Engineering Corporation Limited (Rs. 261.80 million), Braithwaites (Rs. 105 million), Jessop and Company Limited (Rs. 95.10 million) and Burn Standard Company Limited (Rs. 67.40 million).

Higher Earnings from Cardamom Exports

According to the Cardamom Board, the export earnings from cardamom during 1978-79 went up to Rs. 600 million from Rs. 484.4 million in 1977-78. The unit export price also rose to Rs. 205 per kg. during 1978-79 from Rs. 175 per kg. in the previous year. Kuwait, Saudi Arabia, Bahrain, Dubai, Qatar, USSR, Japan, etc. continued to be the major importers of Indian cardamom.

The production of cardamom during 1978-79 is estimated at 4,000 tonnes as against 3,900 tonnes in 1977-78. The statewise breakup of production is ; Kerala 2900 tonnes; Tamilnadu 300 tonnes; and Karnataka 800 tonnes.

The Cardamom Board, set up under the Cardamom Act, 1965, continued to play an effective role in the development of the cardamom industry. The cultivation of cardamom (Elettaria Cardamom) is presently confined to the three Southern States of Kerala, Tamilnadu and Karnataka. The total estimated area under cardamom cultivation in India is around 91,476 hectares, says the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for 1978-79.

Inadequacy of information on the scientific and improved methods of cultivation, processing, preservation and marketing is the main problem of the cardamom planters especially the small growers. In order to solve these problems, a scheme entitled "Extension Advisory Service" was drawn up and implemented by the Board with effect from April, 1977. With 26 extension field units, the Cardamom Board will reach the entire planters selected in the different cardamom growing regions. The production and supply of quality seedlings through the Departmental nurseries is another important activity under the scheme. Seedlings are to be sold at no-profit no—loss basis to growers owning more than five acres and at 50 percent subsidised rates to small growers owning not more than five acres. The distribution of seedlings from the Board's nurseries for 1978-79 season has been completed. A total of 1.53 million seedlings have been distributed from these nurseries.

Eighty certified nurseries, each with a production target of 120,000 seedlings, have been established. Small growers clubs have been organised for exchange of ideas. The Board has organised seminars and campaigns for educating planters on the scientific aspects of cardamom cultivation. Demonstration plots have been established in private plantations to educate the planting community on the benefit of adopting improved and scientific methods of cultivation. With a view to increasing the area under cardamom cultivation, the Board has been pusruing efforts to bring new areas under cardamom both in traditional and the non-traditional areas.

The Board conducted a market survey for cardamom in the north Indian consuming centres to assess the varying consumer tastes, usage pattern, variety and quantum of annual and seasonal requirements, price structure, demand position, distribution channels and marketing problems.

India at UNCTAD-V

The Indian delegation at the Fifth Session of United Nations Conference on Trade and Development (UNCTAD) held at Manila from May 7 to June 3, 1979, which was led by Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation, worked assiduosly to ensure adherence of the developing countries to the Arusha frame-work in the negotiations and succeeded to a great extent in maintaining the solidarity of the Group of 77. The developing countries had harmonised their stand on the various issues at the Ministerial Meeting of the Group of 77 held in Arusha in February, 1979.

UNCTAD-V covered a wide range of subjects including virtually all the major concerns of developing countries in the area of trade and development. The theme of structural changes ran through the entire Agenda of the Conference and was the subject of a separate agenda item itself. The negotiations at UNCTAD-V need to be viewed as part of the continuing efforts of the developing countries to restructure the economic relations with the developed countries and accelerate the implementation of the Programme of Action for the establishment of the new International Economic Order.

In some areas, limited gains were achieved by the developing countries. The Conferece approved a Programme for the accelerated development of the least developed countries. It also reaffirmed the more prominent role of UNCTAD in the area of international economic negotiations and approved programmes for economic co-operation amongst developing countries.

On the important question of protectionism, the Conference was able to reach a consensus resolution calling on developed counties to eliminate such practices concerning the imports from developed countries. The Conference agreed that an annual review of the global patterns of production and trade would be made by the Trade and Development Board and that national governments would take such reviews and general recommendations into account in implementing their adjustment policies and measures to facilitate the transfer of production from developed to developing countries in areas where comparative advantage had shifted to the latter. Though this resolution fell short of the expectations of the developing countries, it still represents an advance over previous positions of the developed counties as the developed countries had previously resisted any attempt at an international review which would have implications, however remote, of suggesting the adoption of appropriate national adjustment policies. Indian delegation played an untiring role in achieving this limited sucess culminating in the adoption of the Resolution in the final plenary. During the Conference, 13 countries pledged a total amount of US 87 million to the Second Window of the Common Fund. This includes the Indian pledge of $ 5 million exclusively for the second Window of the Common Fund. The Comon Fund has been considered a key instrument to achieve the objectives of the Integrated Programme for Commodities.

The Conference also passed a unanimous resolution on Restrictive Business Practices and decided that the UN Negotiating Conference on Restrictive Business Practices should meet during the last quarter of this year.

On the important question of development assistance to developing counties, a resolution was adopted by consensus.

The real gains at UNCTAD-V, however, were achieved outside ference. The developing realised forcefully the nee cooperation among themse Indian proposal for a roun ations among developing co 50 percent tariff concessions for greater cooperation an loping countries. The In gation took the lead in giv thrust to more definitive ac area and the Commerce M detailed discussions with the of Philippines and delegati of other developing countri possibilities and opportuniti creasing economic cooperati developing countries. As a these discussions, developing decided to set up a Commit to work out the modalities fur nomic cooperation and to m implementation of the pr India has been nominated a ber of this Committee. Thi considered the major co from India at UNCTAD-V an ed a catalytic role in con the solidarity of the d countries.

Export Potential for Spices in WANA Cou

A three-member team compri Fazli Husain, Marketing International Trade Centre TAD/GATT) Geneva, Mr. karan, Development Officer, S port Promotion Council, Coc Mr. N. Bharathan Pillai, Ma velopment Officer, Cardamon Cochin, recently concluded a survey for spices and carda West Asian and North Afric tries (WANA), namely, Iraq Jordan, Egypt, Tunisia, Libya, and Morocco.

At present India's exports t markets constitute only about

: in relation to the total exports of es from India. It was, however, erved during the survey that these ntries import fairly large quantities pepper, turmeric, cassia and spice ls from many sources chiefly from gapore, China, Brazil and Malaysia. ia's share in these markets is very ited except in the case of Iraq ere India supplies about 50 percent the imports. According to the lings of the team, there is good pe for developing export of pepper, ia, turmeric, ginger and certain e seeds to these markets.

e size of the market for pepper in se countries is quite big-about 7,000 nes but India's share is limited to ut 200 tonnes, mostly to Egypt. e bulk of the supplies come from gapore, Malaysia and Brazil. In t, Singapore is the major supplier this region.

rmeric is the next imporant spice interest to India in these markets ounting to about 1,770 tonnes. dia holds a major share in this mmodity, although China has made ne inroads in certain markets like ypt.

ie market for cassia is quite substan-l in these markets amounting to 540 tonnes. China holds a monopoly the markets (more than 95 percent). dia is supplying some small quan-ies to certain markets like Jordan, nisia and Algiers.

pice seeds are the next important em. Since most of these countries oduce one or the other spice seeds ke coriander, cumin, fennel etc. nports fluctuate according to local roduction and demand.

he market for ginger in these coun-ies is rather small. India is the major pplier, although recently China, ierra Leone and Bangladesh have ome into this market.

The prospects of exporting chillies to these markets are limited, since Egypt, Tunisia, Algiers and Morocco are known to be producers of red chillies ad Syria produces green chillies. However, small quantities could be exported for purposes of re-export.

Except for Iraq, the market for curry powder in other countries is negligible. There is scope for consolidating and increasing the export of curry powder to Iraq.

The size of the market for packaged spices is limited. However, Jordan and Libya offer very good scope for exporting spices in consumer packages.

The team has identified specific problems which impede export of spices to the countries and has recommended a number of steps, both generic and specific, to develop exports to this region.

The project was undertaken under the programme of Integrated Technical Co-operation between the Government of India and the International Trade Centre, Geneva, Switzerland.

Indo-US Trade Trends

The two-way trade between India and USA has been on the increase over the years. According to a monthly commercial report from the Embassy of India, Washington, the trade exchanges aggregated to $ 1775.58 million during the eleven months of the preceding financial year. India's expots to USA amounted to $ 900.94 million, while India's imports from that country stood at $874.64 million during April 1978 to February 1979. Thus, India enjoyed a favourable trade balance of the order of $ 26.30 million during the period under report.

The main items of exports to the USA in order of importance during the period comprised : unset diamonds ($ 221.69 million), followed by textile fabrics and accessories ($ 152.90 million), woven fabrics of jute ($59.02 million), coffee ($ 57.21 million), leather ($ 34.87 million), marine products ($ 32.98 milion), carpets and rugs ($ 30.56 million), gums, resins, lac and balasams ($ 22.75 million) and cotton fabrics ($ 22.26 million), Precious and semi-precious stones, crude vegetable material, handtools, bolts and nuts, spices, castor oil, footwear, iron castings, wire cables, ropes and barbed wires etc. were other important items which were exported to the USA.

India's imports from the USA mainly consisted of soyabean oil valued at $ 162,28 million, followed by fertilisers worth $110.47 million. Other import items were transport equipment ($88.60 million), aircrafts and parts ($83.52) million), cereals ($38.64 million), organic chemicals ($32.14 million), electrical machinery equipment ($20.12 million), milk and cream dry ($17.81 million) natural phosphates ($15.46 million), malt extracts of flour ($13.10 million) and construction and mining machinery ($11.18 million) and so on.

As regards Generalised System of Preferences (GSP), the report states that the office of the President's Special Representative for Trade Negotiations finalised its annual review of petitions for inclusion or exclusion of products in the US Generalised System of Preferences in March. Of the items sponsored by India, unlined jewellery boxes, cabinet locks, knives and bicycle pats were accepted by the STR's office and placed on the US GSP list. Other items accepted for duty-free treatment in which India might have export interest were silk fabrics, jute floor coverings, lace or knit articles not cotton or wool, jute articles, wire-stand of stainless steel, strand and rope

of stainless steel, slip joint pliers, forks and spoons.

Certain items in respect of which India had been declared ineligible for GSP treatment last year because its exports had exceeded the competitive need criteria (50 percent of total US imports of the item or $ 37.2 million in absolute terms), were brought back into the GSP for India, as her exports no longer exceeded these criteria. Thus India became re-eligible for GSP treatment in respect of jute yarns and insinia. By the same token, in respect of following items India was declared ineligible for GSP teatment because her exports had exceeded the competitive need criteria this year; goat and sheep skins, mango paste and pulp, cane or beet sugar, jute yarns, handloom fabric, woven jute fabric, coir floor coverings, chloriate lime, strychnine, musk, mica and mica waste, glass beads, christmas ornaments and canes.

In addition, the office of the STR decided to delete cut-leather uppers for shoes and leather wearing apparel altogether from the GSP list for all countries.

About textiles, the report says that from April 1, the USA has changed the procedure used for entry of handloom and folklore products exempt from the provisions of its bilateral textile aggreements. The Tariff Schedules of the United States numbers used to exempt such products from textile quota will be removed from the TSUS and importers would be required to identify certified products on the entry summary for withdrawal forms by placing the symbol F as a prefix to the appropriate 7 digits TS US number. As a result of this change the recent difficulties experienced in export of handloom fabric from India to the United States will be removed.

The US Government has also communicated to the Embassy its acceptance of the Indian Government's position that handloom fabric, hand-made handloom made-ups and Indian items would be permitted entry into the US outside of the provisions of the bilateral agreement regardless of fibre.

The Engineering Export Promotion Council of India participated for the first time in the 78th annual function and trade show held in San Francisco in March 1979. Handtools, vices, wood working handtools, carbon steel taps and dies, locks, padlocks, or handles, coat hangers, hinges, tower bolts, hacksaw blades, circular saws, steel files, industrial fasteners and steel tacks from India were displayed at the show. Representatives of participants present at the show booked orders worth $54,000 and submitted quotations for another $100,000 in respect of which business was expected to materialise shortly. Participants expressed satisfaction with the results achieved not only in terms of initial business secured but also in terms of the contacts which they were able to establish.

Tourist Arrivals Step Up

International tourist arrivals in India duing 1978 registered an increase of 16.8 percent over the year 1977 as compared to eight to nine percent increase throughout the world during the corresponding period.

Last year 747,995 international tourists (excluding nationals of Pakistan and Bangladesh) visited India as compared to 640,422 in 1977 registering an increase of 107,573 tourists.

The year 1978 started with an increase of 14 percent in tourist arrivals during January followed by successive increases of 20.1 percent and 16.5 percent during February and March respectively.

The first quarter January to Mar 1978 which comprised, a part of pe season, recorded an increase of 1 percent while the second, third a fourth quarters recorded an increa of 14.8 percent, 20.5 percent and 1 percent respectively in the tour arrivals over the corresponding qua ters of the pervious year.

The maximum number of touris arivals was in the month of December -84,593 followed by November 74,1 and October 72,995.

The pattern of seasional tourist move ments remained almost the same as i early years. Out of the total arrivals 56.1 percent arrived during the winte months and 43.9 perent arrived durin the summer months.

The daily arrivals of foreign tourists in the country was 2,050 in 1978 a compared to 1,755 in 1977.

Industrial Growth and Diversification

HEC Poised for Higher Production

The Rs. 2830-million Heavy Engineering Corporation (HEC) Ranchi, a Government of India undertaking, is poised for a major breakthrough in production in a couple of years.

As a result of multi-pronged measures taken, production which had dipped to Rs. 421.5 million in 1977-78, staged significant recovery the following year with Rs. 706.9 million. All the three units of the Corporation—Heavy Machine Building Plant, Foundry Forge Plant and Heavy Machine Tools Plant—have stepped up their turnover and a further upswing in their performance is expected.

oduction target fixed for 1979-80 1060 million, 50 percent higher he output last year.

ler to revamp the order booking C, the Union Ministry of In- y has initiated several steps at chest of Mr. George Fernandes, er of Industry. An interminis- neeting held recently examined tter in some detail. The meeting was attended, besides the Minis- Industry, by Member (Indus- Planning Commission; Secretary Ministry of Steel and Mines, aries of the Departments of nditure, Industrial Development, Industy and Technical Develop- and representatives from the rtment of Coal, Steel Authority dia (SAIL) Metallurgical and neering Consultants (India) Limi- MECON), agreed that substantial s for equipment for blast furnace, ovens, excavators etc. will be d with HEC. Follow-up action already been mounted in this rd.

ddition, the USSR has agreed in ciple to place orders worth Rs. million on HEC for supply of pment during 1980. The Soviet ping list for the period 1981-85 kely to swell HEC earnings by Rs. 250 million a year. A Soviet team xpected to visit India during the rent year to finalise the deal. Accor- g to arrangements worked out, HEC lso expected to be associated with manufacture of equipment for the posed steel plant at Visakhapatnam l the modernisation of the Bhilai el Plant.

the instance of the Union Minister Industry, a meeting of Secretaries Steel and Mines and Heavy In- stry will be held shortly to decide out the contribution of HEC in the pansion programmes of the steel dusty.

Effective methods have been adopted by the HEC management to improve labour relations. A high-level committee has been set up to look into the grievances of labour and its recommendations are being speedily implemented. In addition, constant dialogue is being maintained with leaders of labour unions and individual labour for smooth and expeditious redressal of grievances.

Rourkela Production Exceeds Target

Rourkela Steel Plant achieved 102.3 percent of the target set for the month of May 1979 by producing 102,331 tonnes of ingot steel. This is significant in view of the fact that the larger capacity Blast Furnace of the Plant had been taken down for planned relining and capital repairs. With this Blast Furnace taken out from the production line, the available capacity of hot metal is just adequate for production of 1 million tonnes of ingot steel in a year, while the actual production rate was 1.22 million tonne during the month. The three available Blast Furnaces operated above their rated capacity. Various technological improvements made in the plant operations and reduction in hot metal consumption helped in augmenting the ingot steel production. The production of CAN fertilizer during the month was 20,103 tonnes which was 111.7 percent to the target.

The galvanising line of Rourkela Steel Plant, which operated above the rated capacity during the months of May, produced 15,107 tonnes and created a monthly production record, surpassing the previous best achieved in the month of March, 1976. Production of FRW pipes, Spiral Weld pipes and Electrical Steel sheets were also a monthly best since inception. The production of cold rolled production was 98.2 per cent of the target.

According to the practice standardised by the Rourkela Steel Plant, annual overhauling and major capital repairs of the plant equipment and machinery are undertaken in a phased manner in the begining of financial year. Capital repairs of the Sintering Plant and Oxygen Plant were completd during the month of May 1979. Relining of Blast Furnace no. four has been in progress since April with a schedule of 70 days. The repairs on Hot Strip Mill, Plate Mill and Cold Rolling Mills equipments have been planned during the month of June, 1979. In the Fertilizer Plant also, capital repairs are under way.

Duty Exemptions for Certain Items

The Government of India has exempted bare copper wires finer than 14 standard wire gauge from central excise duty. Until recently such wires were not charged to duty, since they were not considered assessable as electric wires and cables" covered by Central Excise item No. 338. As they appeared to fall under the residual item 68, central excise authorities in some Collecctorates started assessing them under that item. On the basis of representations from the manufacturers, and after taking technical advice, it was ultimately held that they were in fact electric wires and cables, and accordingly liable to be assessed under item 338, subject to the exemption for small manufacturers whose clearances did not exceed Rs. 500,000 per annum.

Since then Government have received a number of representations to the effect that this decision would result

in hardship to a number of units engaged in drawing or re-drawing copper wires of thickness finer than 14 SWG. A number of factories are reported to have stopped production, pending settlement of the issue. The decision is also reported to have caused hardship to units drawing such wires for the manufacture of imitation zari.

Mr. Satish Agarwal, Union Minister of State for Finance, had a meeting with the copper wire manufacturers recently, when the issue was further examined. The exemption now given comes in the wake of this meeting. With a view to avoiding hardships to smaller units, the Government had decides to grant the exemption as above.

The exemption, which takes effect on June 11, 1979, will be in force till December 31, 1979.

By another notification issued recently, the Government of India has set out the method of computing the average count of yarn used in round mesh mosquito netting, for applying a reduced rate of central excise duty.

As against the tariff rate of 20 percent, *ad valorem*, lower rates of duty depending on the average count of yarn used are applicable to cotton fabrics. Round mesh mosquito netting, a large proportion of which is used by the defence services, could not get the benefit of the lower rate of duty because of a difficulty in computing the "average count of yarn" for the purpose of the exemption. The notification contains a formula for computing the average count, so that the technical difficulty is got over and round mesh mosquito netting can also get the benefit of the concessional rate of duty.

The Government of India has also exempted with effect from May 30, 1979, cement manufactured in a mini cement plant from so much of the excise duty as is in excess of 50 percent of the effective rate. The effective rate of duty is Rs. 65 per tonne.

With a view to encouraging the production of cement, it has been decided that mini cement plants should be encouraged to produce cement for covering up the gap between demand and supply. However, this exemption is not available to such mini cement plants which are operated by large cement plant either as a separate plant or as a part of the main plant. Those mini plants are registered or registerable under Section 26 of the Monopolies and Restrictive Trade Practices Act, 1969, or to which Section 29 of the Foreign Exchange Regulations Act, 1973, is applicable, are not covered by the exemption. White cement is also not covered by this exemption. The exemption is in consonance with the declared policy of the Government of India to discourage monopolistic trends in the instruments of industrial production.

Modernising Liner Operations

The Shipping Corporation of India (SCI) will replace its obsolete ships by modern, sophisticated and containter-oriented ships in a phased manner. It has already taken steps to introduce container concept on its various sectors of liner operations. It is also considering to augment its tonnage to develop its trade to various regions. Giving this information to the Parliamentary Consultative Committee attached to this Ministry at New Delhi recently, the Union Minister for Shipping and Transport, Mr. Chand Ram, said that the national shipping tonnage stood at 5.58 million GRT on April 1, this year as against 5.38 million GRT last year.

The Minister told the Committee that about 90 percent of crude required by the country as also other pe products are carried by t vessels, thereby saving consi foreign exchange. He said th to the Corporation are mainly the highly depressed freight m

The Minister further inform members that a training Insti Highway Engineers is to be soon to help the engineers to managerial skills and professiona ty for construction and main an efficient and reliable highw tem in the country. The cost posed to be met on a 50:50 b the Centre and the States. H announced the decision to give a of Rs. 80 million to the State matching basis from the Central Fund. The remaining 50 percent be met by the State Government their own resources. The grant cover schemes of road researc intelligence, traffic studies, economic surveys, training of engineers and measures for corr regional imbalances such as de ment of tribal and backward promoting inter-state communi facilities and tourism.

The Minister disclosed that v estimated to cost Rs. 140 million, been sanctioned for national hig in Assam, Gujarat, Haryana, and states. These include widenin four lanes of a section of the Na Highway from Delhi-Haryana b to Bahadurgarh.

The Minister said that the tra capacity for navigating officers marine engineers in the Merc Navy Training Institutions is augmented to meet the shortag officers. A shore-based training tablishment will be set up to 500 navigating cadets as ag 250 at present while the Bombay Calcutta branches of the Directo of Marine Engineering Training

their training capacity from
820 cadets.

bly to a question the Minister
ed that the Planning Com-
n had approved the inclu-
f the scheme for procurement
ee inter-island ships at an es-
d cost of Rs. 91.8 million in
ive Year Plan of Andaman
nistation. The Planning Com-
n had tentatively agreed to a
ion of Rs. 120.7 million for the
pment of Kandla Port during
current Five Year Plan. This
les provision for the purchase of
ment, harbour craft, a steel float-
dry dock and construction of
ers. About the creation of addi-
l berthing facilities at the port,
s decided to have further dis-
on on the subject.

rding elimination of congestion
mbay Port, the Minister informed
nembers of several measures being
n to improve the situation. These
ude diversion of bulk cargo from
bay to other ports, mid-stream
oading into barges and imple-
tation of piece rate scheme.

owth Projections of lian Railways

need for more financial allo-
ons for the Railways to enable
create necessary infrastructure to
e growing passenger and goods
ffic, necessitated by industrial and
icultural development in the coun-
was stressed by the Chairman,
ilway Board. He was speaking
the Institute of Marketing and
anagement in New Delhi recently.

ffic on the Indian Railways, the
airman said, is likely to increase
rply during the next 5 years. From
level of about 220 million tonnes,
freight traffic, according to pro-
jections of different economic Ministries, may go up to 350 million tonnes by 1982-83. Railways own estimates, however, are that they may be called upon to handle about 300 million tonnes in that year. Over 15 percent growth in the non-suburban and 35 percent in the suburban traffic is also visualised during this period.

For the railways, the Chairman Railway Board said, all this will require acquisition of new rolling stock and motive power. The additional requirement will be for about 1200 locomotives, 7,500 coaches and 90,000 wagons. This will also need augmentation of the ground capacity in several areas.

The maintenance of the increased fleet of rolling stock and motive power, he said, would necessitate setting up of new workshops and sheds and augmentation of the existing ones, apart from replacement of the over-aged machinery.

Referring to the track, the Chairman Railway Board said that increased attention would have to be paid in the next five years to the maintenance of track to requisite standards by arranging track renewals with the maximum extent possible. Facilities at the passenger terminals, freight terminals, yards and stations would also require augmentation.

The Working Group on the railways set up by the Planning Commission in 1977, the Chairman Railway Board said, had assessed that to enable the railways to handle the projected traffic, an investment of Rs. 53,300 million would be required during the Plan period 1978-83. In view of the limited resources, the Planning Commission have tentatively allocated only Rs. 33,500 million for the develop-met plans of the railways. This is, however, under review of the re-constituted working group of the railways

The Chairman, however, felt that it is increasingly becoming clear to him that the allocations tentatively approved by the Planning Commission are inadequate for the gigantic tasks required to be performed by the Railways. The level of investment will, therefore, need to be substantially increased.

More investment on the Railways, he said, would help it in generating employment on a large scale. The Railways today provide employment to about 1.74 million people. In addition, the employment provided by the contractors who executed the works of the Railways, is estimated to be about 350,000 persons. The impact of the Railways on the employment is also felt in a number of allied and ancilliary spheres.

Railways in independent India, he said, had grown with agricultural, economic and industrial development in the country within the parametres and compulsion of the national five year plans. Railways have spent about Rs. 69,000 million on their develop-met programmes so far. Since 1950-51, over 7,700 kms. of tack were doubled, 1,100 of track were converted from metre gauge to broad gauge, about 7,300 kms. of new lines were constructed or dismantled lines restored and about 4,300 route kms were electrified. During the period, 8,000 steam, diesel and electic locomotives were procured on additional as well as on replacement account. Similarly, procurement was arranged of 35,000 freight wagons (in terms of 4-wheelers).

Import Review of Electronic Systems and Equipment

The basic purpose of the import review undertaken by the Department of Electronics is, firstly, to build up a

comprehensive information system relating to electronic imports, and secondly, to take promotional measures for setting up indigenous industrial capacity in areas where imports are either large in money value, or of a critical or strategic nature. According to its annual report for 1978-79, the Department of Electronics has been using this system to ensure, in addtion, that in the case of system/equipment imports, users adopt a meaningful spares policy for the electronic equipment they are cleared to import and also that wherever needed, action is taken concurrently by the Department to build up domestic production capacity to provide those spares on a continuing basis. This is particularly important in the area of defence electronic systems. Another aspect of the import clearance of systems/equipment is that it has enabled selection of specifications optimal for Indian conditions also in the standardisation of equipment procured.

During 1978-79, 65 proposals for import of electronic systems/equipment (other than computers) and spares for such systems/equipment, involving a total money value of around Rs. 240 million were received from a wide range of users such as, Defence, Post and Telegraphs, Civil Aviation, All India Radio (AIR), Doordarshan, India Meteorological Department, etc. As a result of the review of these proposals and active promotional work undertaken by the Department of Electronics, additional imports which would have taken place have been diverted to domestic supply, while concurrently action measures for meeting at least the future requirements of those systems/equipment which were cleared for import, were also taken. For instance, UHF radio relay equipment needed for the Railways and proposed for import clearance during the year, were diverted to local supply by Gujarat Communications and Electronics Ltd. (GCEL) based on indigenous technology developed collaboratively by GCEL and the Space Applications Centre, Ahmedabad. Such production will also help to ensure that the substantial committed requirements of the Oil and Natural Gas Commission (ONGC), Indian Oil Corporation, Oil India Ltd., over the next few years are met indigenously with contemporary technology systems. Another instance is the decision that half of a substantial number of radars needed by the Air Force originally proposed to be imported would be supplied indigenously, resulting in a few tens of millions worth of local production. Supply of spares for instrument landing systems for the Directorate General of Civil Aviation (DGCA) worth over Rs. 5 million for the next three years, isotope thickness gauges worth approximately Rs. 15 million to be supplied by Electronics Corporation of India Ltd. (ECIL) for the Bokaro Cold Rolling Mill Control system being undertaken on a turnkey basis by Bharat Heavy Electrical Ltd., (BHEL) and electronic weighing systems for the same project, are other examples of import substitution achieved or arranged during the year.

Training Institute for Highway Engineers

The Ministry of Shipping and Transport is to set up a Highway Training Institute soon for the benefit of highway engineers. The Institute will give necessary initial grounding to technical persons and keep them abreast of the latest developments. It will help build managerial skills and professional abilities to plan, construct and maintain an efficient and economic highway system in the country.

The training will be imparted under two main heads : training at enrty and in-service trai Training at entry will be a for every highway engineer joi the department to familiarise with the functions of the departm The in-service training will keep highway engineers well posted the latest developments in their pective specialised fields.

Tha main subjects to be covered the training courses at the Insti will be roads, bridges, traffic transportation, transport econon and road machinery. There will 15-week foundational course, a week re-orientation course, and three-week referesher course for ne recruited engineers and senior exe tives respectively. Besides, spe courses of management and devel ment will be held occasionally senior officers to provide them basic knowledge of managem concepts and practices.

To begin with, only two of th courses are proposed to be run c currently, with 30 trainees in ea course. Intensive use will be ma of audio-visual aids like slides and f strips. Trainees will be drawn fr Central and State Government Dep ments dealing with roads. Highw engineers of local bodies will a be eligible for admission.

Notable Rise in Scheduled Banks Investment

Th total investments of the Indi offices of scheduled commercial ban at the end of March 1977 stood of Rs. 7,170 million (14.1 percent) compared with the investments a y ago, according to a study prepar in the Ba king Division of the Eco mic Department, Reserve Bank India. The rise in investments attributed to the relatively larger liq resources with banks. Deposits w banks went up sharpely by percent during the financial y

while bank credit was rather (21.9 percent). A large part iquid resources was used up ng the additional cash reserve ients following the raising of n reserve ratio from 4 to 6 in the latter half of 1976 and ounding of 10 percent of the in deposits since January 14, The balance was utilised by o build up their investment s.

tionalised banks, which accoun- more than one half of the total ents of all schedule commercial n 1975-76, maintained this lead fact improved their position rly three percentage points to percent during 1976-77. This inly due to the sharp increase stments in Central Government —Rs. 2,950 million)) and other securities (—Rs. 1,680 million). hare of the State Bank and its aries, on the other hand, d by nearly three percentage to 31.4 percent mainly attribu- o a decline in investments in l Government securities (—Rs. million) which was not fully d by an increase in holdings of Government loans (—Rs. 1,310 n). The share of foreign and scheduled commercial banks in investments remained around 5 percent, respectively.

Of the increase of Rs. 7,170 million in total investments in 1976-77, more than a half (Rs. 3,830 million) was in Central and State Government securities, about two-fifths (Rs. 2,900 million) in other trustee securities and the balance (Rs. 440 million) in other securities such as shares/debentures of joint-stock companies and foreign securities. The following table compares the investments in March 1977 with those in March 1976 :

	Investments (Rs. million)		Share in total (percent)	
	End of March		End of March	
	1976	1977	1976	1977
Government securities	24,890	2,7050	490	467
overnment securities	11,240	12,910	221	223
rustee securities	13,280	16,180	262	279
lebentures of joint-stock ies	930	1,370	19	24
lomestic securities	420	370	8	6
securities	20	70	—	1
	50,780	57,950	1,000	1,000

Out of the total of Rs. 39,960 million invested in Government securties, medium-term securities (5-10 years) accounted for 40 percent, followed by long-term securities (over 15 years) accounting for 37 percent. Nearly three-fourths of investments of Rs. 16,180 million in other trustee securities during the year were in securities of State Government bodies while the balance was in securities of all-India bodies. Investments in shares and debentures of joint-stock companies increased by Rs. 440 million to Rs. 1,370 million during the year. The increase was shared by all the bank groups except the State Bank of India and its subsidiaries. About 82 percent of the amount (Rs. 1,120 million) was held by the fourteen nationalised banks.

Investments by the foreign offices of Indian banks declined from Rs. 590 million in March 1976 to Rs. 540 million in March 1977.

Science and Technology

India's First Experimental Communication Satellite

APPLE (Ariane Passenger Payload Experiment) is an experimental communication satellite to be launched by the third development flight of Ariane—a launch vehicle being developed by the European Space Agency ESA). The Launch is scheduled for June 1980.

Communications via spacecraft have grown and continue to grow at an enormous rate because they allow relatively economical transmission of information over large distances as compared to earth based cables and line-of-sight microwave sight towers. The fundamental advantage of a satellite is its ability to economically get a global look at a large portion of the earth's surface and thus affect point-to-multipoint communication over large areas. The payload for this type of satellite consists of an up and down link radio system wherein wide bandwidth information transmitted via radio waves are received by the spacecraft from one earth terminal, amplified and routed to a distant earth terminal wherein the information enters into the 'local' ground communication net-work.

The APPLE Spacecraft project is in line with the approach Indian Space Research Organisation (ISRO) has been following for development of indigenous expertise in applications satellite design and fabrication. After Aryabhata, Satellite for Earh Observation (SEO) and Rohini (TS-1) in low earth orbits, ISRO had to acquire capabilies to build a geostationary communication satellite. A timely opportunity to embark on such a programme became available to ISRO through the invitation of the European

Space Agency to fly passenger payloads in the second, third and fourth development and qualification flights of the Ariane Launch in 1979-80.

The APPLE Spacecraft will be injected into an elliptical orbit of 200 km x 35,768km by the Ariane launcher. To achieve geostationary orbit (35,768 km circular) an apogee boost motor is carried on board the satellite which is fired at appropriate position in the orbit.

The Spacecraft is cylindrical in shape with 1.2M diameter and 1.2M height. It will weigh about 630 kg at the time of launching and 365 kgs after the apogee motor fired. It employes two deployable solar panels of 1.1m x 1.3m area each, always oriented towards the sun-in conjunction with nickel-cadmium batteries for deriving necessary electrical power. The spacecraft has five major sub-systems.

Telemetry, Tracking and Command System (TTC) is for establishing uplink and down link to obtain certain information about the spacecraft house keeping performance and to carry out necessary operations on the spacecraft.

Power conditioning systems is to supply power to different sub-systems.

Attitude control system consists of sensors, which sense the position of the earth and sun indicating the attitude of the spacecraft ;

Momentum wheel to maintain the attitude of the spacecraft, and reaction control system to carry out corrections in the spacecraft attitude ;

Solar array drive and power transfer mechanism to orient the solar panels towards the sun and transfer the solar panel power to other sub-systems of the spacecraft;

Thermal protection system is to maintain different sub-systems of the spacecraft within reasonable temperature levels for their effective performance.

The communication payload consists of a transponder and a parabolic dish antenna to receive and transmit communication signal from one ground station to another and electronics to strengthen the weak signal received from the ground before it is retransmitted.

The main ground stations for monitoring and controlling the spacecraft will be located at Sriharikota (Andhra Pradesh) and Ahmedabad. Other ground stations belonging to the European Space Agency may be used to support the monitoring of the satellite after it is launched by the Ariane vehicle, till it is acquired by the Indian stations and the spacecraft is positioned accurately over the equator at 102 degrees East longitude.

The APPLE Spacecraft will be used to carry out various communication experiments in continuation of satellite telecommunications experiments project (STEP). The Earth Stations used for STEP such as Ahmedabad, Delhi and Madras along with Transportable Remote Area Communication Terminal (TRACT) and Emergency Communication Terminal (ECT) will be slightly modified for this purpose. Some of the experiments may include such interesting applications as multi purpose training centres to train teachers, vilage health workers. and others through television; arrange dialogue between a group of villagers and a group of city dwellers; culture sharing between different parts of the country through television link and television teaching. Apart from these, some technology experiments will be coducted to aid in future satellite designs.

The APPLE Spacecraft will pave the way for space qualificatior Boost motor to attain req attitude control of a 3 axi space craft; and technolog panel development. It develop thermal manage geostationary spacecraft; li structures; communication design; and on orbit experience for geostationary

NAL Develops New Techniques

According to the National A Laboratory, Bangalore (N Systems Engineering D developed an automated i calculating and displaying t taneous amplitude proba tribution, cumulative d function and peak density of random signals. The sys for these measurements are Probability Analyser and processor for measuring p distribution. The Digital P Analyser consists of a variable clock generator for observa fixation of time of input staircase generator for variable amplitude, level ind window comparater for comp signal input voltage, and counter for counting the n clocks that are allowed thro incrementer and a 12 x 100 register for continuous d required estimation of comput A 12-bit A/D converter is to convert 12-bit digital w analog output.

Rigorous analysis of the signals encountered in all engineering and fundamental has long been held to be vital tant but has not really been in practice owing to the lack ware. The measurements a exact and repetition of each produces slightly different

probability of obtaining a parti- answer cannot be derived ytically, since the mathematical of the measuremet will not, in ral, be known. Instead, statistical ysis is made from the repetitions ne measurements taken in the tical circumstances. A good nple of such a situation is the onse of a mechanical system in a lom vibration environment.

bability distribution analysis using tol techniques is a very efficient me for calculating and displaying onse of a mechanical system in a lom vibration environment. The lysis is normally carried out with bability density analyser and such stem has wide application in areas n as aerodynamics, vibration lysis, hydro-dynamics, under-water nd, acoustics, structural engineering, physics, radio astronomy, com- nication, medical physics, etc.

e micro-computer is basically 8080 cro-processor used the measure- nt of probability distribution in l time. The analog signal input is -processed to the equivalent of binary digits and to place the signal a pedestal of slightly greater than lf of the maximum peak to peak cursion of the signal. This latter quirement is necessary to avoid the mplication of sign bit allocation. maximum of 256 levels (8 bits) are equate to define probability density nction and will introduce negligible uantizing error. Following the com- etion of digitization, signal is read to the micro-processor as an address. itially, all the 256 reserved locations the memory are cleared and at the ddressed location a binary 'I' is added storage locations whose addresses rrespond to discrete amplitude vels in the range I-255. The process halted at the end of the period of interest or when overflow of memory content occurs.

The probability density function can yield important information about non-linearities in a system and is particularly useful in dynamic stability studies of space vehicles. Pressure cell and strain-gauge measurements are made during turbulent air flow and structural oscillations of a space vehicle and launch vehicle combination during ascent through the atmosphere. It can also be used to determine suitability of different combinations of space vehicles, boosters and escape tower shapes on the dynamic stability of the space launch system.

The unit is presently used to study the vibration analysis of mechanical systems and its performace characteristics are being evaluated.

Profile of Food Processing Industry

India is predominantly an agricultural country. Nearly 80 percent of its population depends on agriculture. Due to the recent scientific breakthrough in achieving high yielding varieties by the application of inputs like fertlisers, improved seeds, irrigation, insecticides, etc. coupled with the new farming techniques and the added initiative and sustained efforts of the farmers, the country scored distinction of having a green revolution in the recent past. In agricultural output especially in the production of wheat which stood at 12.25 million tonnes in 1964-65 rose to 23.25 million tonnes in 1970-71 and further to 29 million tonnes during 1976-77. The production of paddy reached new heights of 70 million tonnes during 1977-78 which is about 22 percent of the world's paddy production. The total production of fresh fruits and vegetables in the country is about 32 million tonnes. India is one of the few leading countries in the world in the production of groundnuts, rapseed and mustard seed, sesamum, spices, etc. Besides these, other important commercial crops produced abundantly in the country are sugarcane, cereals (pulses, barley, maize etc.), coconut, cashewnut, etc. The fact, however, remains that the mechanised agricultural operations provide only seasonal employment with the result that there is forced idleness of labour for nearly half of the year. The development of agrobased food processing industries, which are labour-intensive, can sizeably reduce this problem and has, therefore, been accorded a special place in the economic planning of the country.

A variety of agro-based food industries are aptly suited for development in cottage and small scale industries sector Sixteen important processed food manufactring activities which include ice cream, dehydrated vegetables, pickles and chutneys, vinegar, rice milling, dal milling, bread, biscuits, confectionery, rapeseed oil, mustard, sesamum oil (except solvent extracted), sweetened cashewnut products, poultry feed, ground and processed spices are now reserved for exclusive development in the small sector.

Due to the unique geographical and climatic conditions, the country is gifted with a wide range of fruits, vegetables and spices. The horticultural crops are assuming substantial economic importance in the industrial and export fields. Raw onions, bananas, mangoes and potatoes have shown considerable export potential. In addition, processed items like mango juice, mango pulp, pickles, chutneys, dehydrated onions etc. figure prominantly in exports. There is great scope for the processing of pineapples bananas, tomato products and canned vegetables. Of the total 32 million tonnes output of fruits and vegetables in the country,

22 million tonnes are fruits and 10 million tonnes are vegetable and tubers.

Fruit and vegetable preservation industry was born more than a century ago with the manufacture of traditional products like pickles, preserved chutneys, etc. Over the years, it has considerably diversified to produce canned fruits, vegetables, jams, jellies and marmalades, dehydrated products fruit juices, squashes, syrups, soft drinks etc. It is estimated that at present there are about 1,300 units against 572 in 1952 engaged in the manufacture of fruit and vegetable products. Of these, 32 units are in the organised sector with a total production capacity of 978 tonnes per annum and the rest are either small or cottage scale units.

A close scrutiny of the marketing pattern reveals that of a total production of 55,000 tonnes (1977), 15,000 tonnes were exported. The balance of 40,000 tonnes consumed in the home market was purchased by (i) Army Purchase Organisation (APO) and Canteen Stores Department (CSD), (ii) hotels and restaurants, and (iii) house-hold consumer.

Surveys and studies carried out by several agencies like Indian Institute of Foreign Trade, Processed Food Export Promotion Council and Trade Development Authority have revealed big export prospects for the industry, if it can produce goods at competitive prices. Mango products have already made a good breakthrough in the export markets during the last few years. Recently, India exported 8,000 tonnes of mango juice to USSR, 2,000 tonnes of mango juice, slices, and pulp to Poland, 2,000 tonnes of mango juice to West Asian countries, 500 tonnes of mango pulp to USA and 400 tonnes of mango pulp to West Germany. Poland has shown interest in the purchase of 15,000 tonnes of tomato paste, apple and cherry concentrates, pineapple, mango, banana pulps etc. on a long term basis. Czechoslovakia, USSR and East Germany are also interested in purchasing 5,000 to 6,000 tonnes of pineapple products. In view of the expanding export market for canned vegetables, fruits juices, fruit pulps and pickles, there is ample scope for development of fruit and vegetable preservation industry which could make specific contributions to help revitalise rural communities and build better agriculture.

Even though, more than 50 percent of the total production of fruit and vegetable products is contributed by small scale units, one of the main problems of the fruit processing units in the small scale sctor is the marketing of their products. Therefore, ways and means have to be found for collective marketing such as formation of consortia of manufacturers or adopting a common brand name for marketing of their food products in the internal as well as export markets.

A variety of changes in the living and occupational pattern of Indian people in cities, towns and rural areas is contributing to fast increasing demands for different types of bakery items. Bakery manufacture is amenable to wide dispersal in the country including rural and backward areas, particularly to cater to local demand and provide additional avenues for employment in such areas.

Scope for Bakery industry in India

Bakery industry is generally classified into four categories, viz., (i) bread, (ii) biscuits, (iii) mixed products (pasteries, fruits/decorated cakes etc.), and (iv) confectionery products. Biscuits account for the maximum consumption followed by bread and other items. It is perhaps due to the fact that compared to biscuits, the other bakery food products have a shorter shelf-life.

Bakery industry has taken big st in the post-independence era. T are at present 45 bakery units in organised sector (32 biscuit an bread), 344 in factory sector biscuit and 63 bread) and over 27 other family bakery establishm spread throughout the country. total production of bakery pro in estimated at 2,00,000 tonnes va at Rs. 1,000 million (biscuits Rs. million, bread Rs. 250 million, bakery products Rs. 150 million which 99,000 tonnes are attribute the large scale sector and the re the medium and the small scale sec Apart from its contribution to econ bakery industry holds a substa employment potential for all categ of persons, trained and untrained.

According to the census data of 1 there were approximately 905 co tionery units in the small sector wit annual production value of Rs. 98 million. Since then, the confectio industry has further developed ma facturing a wide range of prod which include sweets, toffees, lozen gums etc. Most of the small co tionery units are in urban and s urban areas.

Rice milling is the largest agro-b industry in the country. Paddy milled in homes as well as in traditi modern mills. According to the pre estimates, India has 57,500 single lers, 1,900 batteries of hullers, 26, shellers, 51,000 sheller-cum-hu mills and about 300 modern m This makes a total number of 67, paddy processing units in the coun

Recently, the Central Food Tech logy Reserch Institute (CFTRI) designed a mini-rice mill to serve a substitute for the conventional "H ler Mill" to suit village needs. W a capacity of 500 kg. of paddy per h the mill is likely to cost Rs. 30,000 Rs. 35,000. Besides being less exp

ve than bigger mill, the mini-rice mill is expected to give a higher percentage of yield than the conventional mill.

The extraction of edible quality oil from rice bran would help to improve the economics of rice mill operations and make additional fat available for human consumption. The extracted oil is currently used mainly for industrial purposes as it is not suitable as a cooking medium. A technique developed by CFTRI for stabilization of rice bran enables it to be stored for sufficiently long time without rancidity occurring in it so that it can be used for extraction of edible quality oil. The extracted bran could be used for cattle and poultry feed.

Milling of pulses is also an important activity as pulses form an important part of diet. They are the main sources of protein. The important pulses produced in the country are tur (arhar), gram, urad, masur and moong. Depending upon the climatic conditions, different regions of the country produce different pulses. The total production of various pulses was about 10.4 million tonnes in 1976.

About 1,000 units are at present engaged in processing of various pulses, The pulse milling industry is predominantly a small scale industry and has now been reserved for exclusive development in the small sector. There is need to modernise this industry to increase the productivity and the performance. Modern technology developed by CFTRI, Mysore, has simplified the milling operations and gives a higher milling out-turn with the advantage of savings in time, space and processing cost.

Oil seed crops occupy an important place in the agricultural and industrial economy and account for about 10 percent of the total crop areas. Most of the edible oils are produced from 5 major oil seeds, namely, groundnut, sesame, castorseed, rape seed and mustard seed. Besides these, oil is also produced from coconut, cotton seed and sunflower. Apart from the large oil mills, there is a large number of small oil mills and village ghani units which are meeting the local and regional demands to a great extent. According to the annual survey of industry 1975-76, there are approximately 2,539 edible oil mills.

India with its vast coastal area of approximately 110,000 sq. miles is one of the leading fish producing counties of the world and is rich in many commercially important varieties. There are more than 654 seafood manufacturing units equipped with modern facilities like freezing and ice, canning and deyhydration plants, cold storages, etc., besides a number of other units having well-equipped mechanised vessels.

The seafood industry is predominatly established in the small sector and is well spread over the coastal regions of the country with main concentrations in the State of Kerala, Tamilnadu, Andhra Pradesh, Karnataka, Maharashtra, Goa, Gujarat, etc. The products of the industry have an excellent scope for exports. There are, at present, over 315 small units enageged exclusively in export of marine products. India made a breakthrough in the market abroad duing 1966 earning Rs. 135.2 million as foreign exchange. Since then there has been a steady growth in its export and during 1976-77 these expots earned Rs. 1,892.5 million by way of foreign exchange. Until now India's fishing efforts have been confined to inshore waters only, but looking to the vast export potential, there is need to top the resources in the offshore and deep sea regions by developing the big machanised trawlers.

The country with its long coastal line has a great advantage in progressive exploitation of off-shore and deep sea resources to meet the target of 133,000 tonnes set up by Marine Products Export Development Authority, Cochin which is likely to bring in a total of Rs. 1,200 million by way of foreign exchange by 1978-79.

India is the largest producer and exporter of spices in the world. Pepper, cardamom, chillies, ginger and turmeric are the major spices accouuting for 85 to 90 percent of the total Indian export earnings from spices. Indian curry powders (a blend of number of spices) have become popular in many countries.

Spices are usually required in preparing appetising and digestive beverages, confectionery, soup powders, sauces, instant curries, canned meat and poultry products, Ground spices, spices powder blend, spices oil, oleoresin, dehydrated spices etc. are some of the processed forms of spices. The preference for oil and oleoresin of spices are also increasing day by day. The main advantages of using oil and oleoresin instead of spices lies in giving a uniform flaoour, easier storage, longer shelf-life, etc.

In recent years, a number of small scale units have come up to meet the increasing demands in the home and export markets for the processed spices and derivatives of spices like oil, oleoresin, essence etc. According to the census data of 1972 there are over 142 small scale units in the country engaged in the manufacture of ground and processed spices. In addition to the above, there are 18 small scale units engaged in the manufacture of dehydrated green pepper. □

Regd. No. D(C)

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
3rd Dar-es-Salaam International Fair, Dar-es-Salaam (Tanzania)	July 1—9, 1979
Damascus International Fair, Damascus (Syria)	July 4—23, 1979
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25—29, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

News Highlights

Export Strategy Panel Set Up

A Committee to formulate long-term strategy and prospective plan for India's exports during 1980, has been set up by the Government of India under the Chairmanship of Mr. P. L. Tandon, Director General, National Council for Applied Economic Research. The Committee will submit its report by June 30, 1980.

Indo-Egyptian Collaboration in Power Projects

India will assist Egypt in rural electrification of that country under a protocol between the two countries signed during the recent visit of the Union Energy Minister, Mr. P. Ramachandran to Egypt. The protocol also provides for maintenance of thermal power stations in Egypt by Indian experts. The two countries will also enter into joint ventures to manufacture electrical equipment. (Page 2)

Indo-Czech Protocol

India and Czechoslovakia have signed a protocol on expansion of economic cooperation in engineering, power, chemicals and cement plant production. The protocol was signed recently in Prague by the

(*Contd. on page* 2)

Export Performance and Potential

Trade Protocol between India and Czechoslovakia

The eighth session of the Indo-Czechoslovak Joint Committee concluded recently in Prague with Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation, signing a protocol with Mr. Andrej Barcak, Foreign Trade Minister of Czechoslovakia.

The talks were conducted in a spirit of extreme cordiality. The discussions took place against the backdrop of the visit of the Prime Minister of India, Mr. Morarji Desai, to Czechoslovakia which immediately preceded the Joint Committee meeting. During the visit of the Prime Minister, both sides had stressed the need and possibility for expanding economic cooperation between the two countries and had highlighted the role of the Joint Committee in this regard.

The protocol sets out the salient features of the discussions that took place at the four-day meeting of the Joint Committee. On the suggestion of Mr. Mohan Dharia, the Committee agreed to adopt a target of doubling of trade flows between the two countries during the five-year period 1981-85 as compared to the levels reached by 1980. In order to work towards this target, negotiations would be started immediately to draw up a diversified list of commodities with long-term potential of exchange between the two countries to be finalised before the middle of 1980.

The Czechoslovak Government agreed to extend the period for utilisation of third Czech credit upto the end of 1980. Cement, metallurgical, chemicals and fertilizers plants were identified as areas for which this credit could be utilised.

Union Minister of Commerce, Civil Supplies and Cooperation, Mr. Mohan Dharia and Czechoslovak Minister of Foreign Trade, Mr. Andrej Barcak. The protocol lays down new forms of economic cooperation between the two countries.

Exports Maintain Upward Trend

India's exports were higher by over Rs. 300 million in April 1979 as compared to April 1978. According to provisional figures available, exports and re-exports in April 1979 totalled Rs. 4,640.4 million as against Rs. 4 326.7 million in April 1978. Total exports, based on supplementary returns, for the year 1978-79 stood at Rs. 56,182.6 million.

India Bags Thai Contract

Triveni Structurals Limited, a public sector undertaking at Naini, Allahabad, has secured a Rs. 21 million contract from Thailand for the supply of hydraulic gates to the Thai Electricity Generation Authority. The Indian firm secured this contract for the fabrication and erection of these massive gates against stiff global competition. (Page 4)

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Another important decision taken by the Joint Committee was that concrete measures should be adopted by both sides to exploit opportunities for collaboration in third country projects. For this purpose, identified organisations on both sides would devise procedures of consultation to facilitate joint tendering and sub-contracting in third countries.

The eighth Session of the Joint Committee recorded significant advance in the field of industrial cooperation. The collaboration between Polytechna and Heavy Electricals Corporation (HEC), Ranchi would be finalised early for the manufacture of high capacity cement plants. Technical cooperation from Czechoslovakia for the manufacture of heavy machine tools such as horizontal and vertical boring machines has also been agreed to. In addition, a number of other promising areas for industrial collaboration between the two countries have been identified. It was agreed that proposals for the supply of machine tools including special purpose machines from Hindustan Machine Tools (HMT) and equipment for coke oven plants, rolling mills and structurals by HEC to Czechoslovakia would be finalised early.

In the field of electronics, a number of areas of cooperation were identified. The possibilities discussed included technical collaboration in the field of manufacture of radar equipment, transmitters and transmitting tubes as well as computer peripherals. At the same time, supply of computer software from India to Czechoslovakia was also envisaged.

The existing arrangements for cooperation in the field of science and technology were reviewed and a new programme of action covering the period June 1979 to December 1980 was approved.

Earlier, Mr. Mohan Dharia, called on Dr. Lubomir Strougal, Czechoslovak Prime Minister when both Ministers expressed satisfaction at the progress of discussions at the eighth meeting of the Joint Committee. The Czechoslovak Prime Minister conveyed his appreciation of the suggestion made by Mr. Dharia for adopting a target for doubling of trade flows during the five-year period 1981-85 as compared to the levels prevailing in 1980. In this context, the need to draw up a long-term programme for exchange of commodities and products was stressed.

The Czechoslovak Prime Minister also indicated that Czechoslovakia would use the Czech-assisted industrial plants in India as a focal point for expanding economic relations between the two countries. Both sides also emphasised the need for collaboration in third country projects.

Both the Ministers expressed the hope that the eighth meeting of the Indo-Czechoslovak Joint Committee would represent a landmark in the growth of economic relations between the two countries.

India to Assist Egypt in Power Projects

A protocol on bilateral cooperation between India and Egypt was signed recently by the Union Energy Minister, Mr. P. Ramachandran and the Minister of Electricity and Energy of Egypt, Engineer Mustafa Kamal Sabry. During his week-long stay in Egypt, the Union Energy Minister,

who was accompanied by senior officials and experts, held several discussions with his Egyptian counterpart on expanding bilateral cooperation in the field of energy.

According to the Protocol, India will assist Egypt in the rural electrification of that country. The Protocol also provides for services of Indian experts for maintenance and rehabilitation of thermal power stations in Egypt, joint ventures for manufacture of electrical equipment and exchange of experts and information in the field of solar energy and bio-mass.

India had submitted a project report on rural electrification in the selected areas of Kafr El Sheikh and Assiut in Egypt, which has been found generally acceptable. The Protocol provides for the procurement of certain materials for the rural electrificatiion from India. Egypt will indicate the quantity of various items they would like to procure from India and specifications will be finalised by the two sides. The work connected with the supply of equipment from India would be carried out by the Rural Electrification Corporation (REC).

It was also agreed that senior engineers of the Rural Electrification Authority of Egypt will be deputed to India to study the various economic, technical and managerial aspects of lift-irrigation. India Would depute senior experts to help Egyptian authorities in finalising their proposals in this field.

The Egyptian delegation expressed interest in establishing joint ventures for manufacture of transmission towers, high-voltage switch gears and insulators. A team of experts from India will visit Egypt for exploring the possbility of establishing such ventures.

The Egyptian delegation also expressed interest in securing from India services of experts for the maintenance and rehabilitation of thermal power stations specially in the fields of boilers, turbines, soft water plant and demi water plant. India agreed to extend assistance in this field and a detailed programme will be drawn up by the two countries.

The two sides also agreed to exchange information and expertise in the field of solar energy and bio-mass.

India has agreed to depute three experts, one each in the field of solar energy, rural electrification, construction and design, and bio-mass research and development. India would also train Egyptian engineers in power engineering and research.

During the visit the Indian delegation visited important projects and institutions in the field of energy, in Egypt.

The Indian Minister of Energy and his Egyptian counterpart reaffirmed the existing friendly and cordial relations between the two countries and the desire to strengthen the bonds of cooperation in various fields of energy in the mutual benefit of the two countries.

Expanding Indo-Yugoslav Trade

The 12th session of the Indo-Yugoslav Joint Committee for Economic Cooperation opened in Belgrade recently under the chairmanship of Mr. Mohan Dharia, Union Minister for Commerce, Civil Supplies and Cooperation and Mr. Metod Rotar, Federal Secretary for Foreign Trade of the Socialist Federal Republic of Yugoslavia.

At the opening session both the Co-Chairmen, while expressing their satisfaction at the very close political relations existing between the two countries called for greater effort in the field of economic cooperation keeping in view the desire expressed by Prime Minister Mr. Morarji Desai and President Tito for further strengthening and enriching bilateral techno-economic-cooperation on a long-term basis during Mr. Desai's recent visit to Yugoslavia.

In his opening speech Mr. Mohan Dharia called for action to be taken for expansion of trade in order to achieve levels commensurate with the strong economic and political relations existing between the two countries. In this regard Mr. Dharia directed the Joint Committee to identify items which could be covered by long-term arrangements between the two countries with a view to doubling of trade by 1983 from the levels achieved in 1977. He said the Indian side would be prepared to accept any proposals for long-term arrangements based on the principle of mutual benefit. In his speech Mr. Dharia also emphasised that purely trade exchanges were not enough and possibilities of other forms of economic cooperation such as industrial cooperation, projects in third countries, etc. needed to be explored and exploited.

Earlier, Mr. Mohan Dharia called on Mr. Branislav Ikonic, Vice President of the Federal Executive Council in Belgrade, Yugoslavia.

Mr. Dharia, while reviewing trade and economic relations between the two countries, stated that India and Yugoslavia should expand trade exchanges and intensify economic cooperation consistent with the good political relations subsisting between the two countries. He said that India and Yugoslavia being both developing countries should, in their bilateral relations set an example of economic cooperation among developing countries. He was confident that the 12th session of the Joint Committee which was meeting in

Belgrade would constitute a landmark in the development of economic relations between the two countries. Mr. Branislav Ikonic fully reciprocated the views of Mr. Dharia.

India Wins Thai Contract for Hydraulic Structures

Triveni Structurals Limited (TSL), a public sector unit under the Department of Heavy Industry, has won an international contract from Thailand for design, fabrication, supply, erection and commissioning of hydraulic structures and mechanical equipments for Lower Quae Yai Regulating Dam Project of the Electricity Generation Authority of Thailand (EGAT). The value of the contract is Rs. 21 million.

Under the contract, TSL has to supply five spillway gates, four intake gates, hoists, trash racks and road bridges. The project is to be completed by January, 1981. The TSL is confident of completing the job on time.

Triveni Structurals Limited won the tender against stiff competition from a number of Japanese and some international firms of repute, after it had established its design superiority and competence to undertake this work.

Earlier, TSL had successfully completed several international contracts, particularly in the field of hydraulic structures. TSL - built projects have already been commissioned in Zambia and Tanzania.

Besides successfully entering export markets, TSL has been showing steady improvement in its production during the last few years. It has undertaken an expansion programme for increasing its pressure vessel capacity from 1000 to 2000 tonnes per annum and expand its capability with regard to hydraulic structures and 400 KV transmission and other towers.

79—Special Import and Custom Arrangements

The Trade Fair Authority of India is organising the India International Trade Fair, 1979 (IITF'79) at Pragati Maidan, New Delhi from the November 10 to December 9 1979. The scope of the fair will cover all aspects of industry, agriculture, trade and scientific and technological advancement. Over 30 foreign Governments, besides a few foreign commercial firms and about 3,000 Indian enterprises are expected to participate in the fair. The fair is expected to be visited by over 5 million people including businessmen from abroad. During the period of the fair, Delhi will be one of the important trading centres of the world where manufacturers and exporters from different parts of the world will meet to exchange their technical know-how and merchandise. Exporters of machinery, components and industrial raw materials in particular will find a very good market for their goods in India because of the recent policy of Government of India allowing liberalised imports for strengthening the production base of the country. A large number of machinery items which fall under the category of capital goods are now allowed to be imported freely under the Open General Licence by actual users.

Under the terms of participation, the foreign exhibitors will be allowed to import exhibits free of duty for exhibition and display without the requirement of any import licence or customs clearance permit, provided the goods in question are re-exported within a period of six months from the date of the close of the fair. The period can be suitably extended if prior permission is taken from Customs Department. For fulfilment of conditions for temporary import of exhibits, the foreign exhibitors would, however, be required to execute a bond with the Custo Authorities supported by a guaran by their Embassies in India or a na nalised bank in India.

The foreign exhibitors will be allow to sell at the close of the fair on paym of the requisite custom duty etc. s of the exhibits as are otherwise perm sible for import into India, provic the buyers hold a valid import licer for the goods proposed for disposa

In addition, a special fair quota v be granted to foreign exhibitors the IITF'79 for disposal of their exhib at a specified scale, viz. (a) @ 2,50 per square metre of space book subject to a maximum of Rs.2.5 milli for each country participating at national level (b) @ Rs. 750/- p square metre of space booked subj to a maximum of Rs. 0.75 milli to each foreign commercial firm par cipating independently in the fair.

The Trade Fair Authority will ass the eligible buyers of the exhib of foreign exhibitors, in getting t special import licence. For the purpo a special cell is being set up at Prag Maidan for on-the-spot issue of Cu toms Clearance Permits/Import Licen wherever required.

The foreign exhibitors will be allowe to organise in their respective Pavi on's sales of inexpensive souver items against the fair quota, on payme of import duty, upto the maximu limit of Rs. 20,000/or 15 percent of t admissible amount of fair Quot whichever is less.

The import of consumable goods suc as printed material, pamphlets, lit rature etc. pertaining to the exhibi will also be allowed without a restrictions. In addition, advertiseme articles, consumable goods upto value of Rs. 1500 per exhibitor woul be allowed, without any restrictions.

To facilitate expedtious clearance, all goods meant for the IITF'79 will be allowed to be transported from the Port of landing direct to Pragati Maidan, where on-the-spot clearance will be afforded by Customs Officers stationed there. Similar facilities will be afforded at the time of disposal and/or return of goods etc.

In view of the foregoing special facilities provided for the foreign exhibitors in the IITF'79, it is expected that foreign firms will find it fruitful to participate in the IITF'79 on an appropriate scale.

Higher Export Earnings of HHEC

The turnover of the Handicrafts and Handloom Export Corporation of India (HHEC), a Government of India undertaking, during 1977-78 increased to Rs. 579.8 million from Rs. 446.4 million in 1976-77, registering an increase of Rs. 296.3 million, says the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for the year 1978-79. The turnover during January-December, 1978 amounted to Rs. 296.3 million, according to the annual report.

HHEC is a fully owned subsidiary of the State Trading Corporation of India (STC). It came into existence in June, 1962. It undertakes export of handicraft and handloom goods, besides canalised export of woollen/blended knitwear and goat-hair patties. The authorised capital of the Corporation has been increased from Rs. 40 million to Rs. 50 million and paid-up capital from Rs. 36.2 million to Rs. 44 million in 1978-79.

The total exports of the Corporation during 1977-78 were Rs. 570 million against Rs. 435.4 million in 1976-77 – canalised Rs. 372.6 million and direct Rs. 197.4 million. During the period January-December, 1978 the exports of the Corporation amounted to Rs. 288.5 million.

The Corporation earned a gross profit of Rs. 56.8 million in 1977-78 compared to Rs. 44 million in 1976-77. The net profit for 1977-78 was Rs. 10.9 million against Rs. 11.2 million in 1976-77. The marginal decrease in net profit was due to increased cost.

The Corporation continued to be the premier export house in the field of handicrafts and handlooms. HHEC has laid considerable emphasis on promotional work through development of new markets and products. Particular mention may be made of some new quality of carpets as a result of closer collaboration with some departmental stores in West Germany and Switzerland. Such tie-ups have also helped in the development of new qualities in lamp, wool sweaters and shet-land sweaters. In this process the Sona Chain of shops play a very significant role.

HHEC also maintain a number of warehouses abroad, which help in ensuring regular supplies to the market not only of HHEC products but also of other exporters of such products from India.

The decanalisation, from the financial year 1978-79, of woollen knitwear and goat hair patties, the only two items canalised through the Corporation, has posed a new challenge to the organisation. In the changed context the Corporation is initiating steps to diversify the exports by developing several new items and establishing contacts in markets hitherto unexplored.

The Corporation intends to play a prominent part in the export of gems and jewellery. Other projects under consideration include decoration of two star and Janta Hotels with innovative uses of traditional handicrafts. HHEC plans to establish a carpet weaving training centre at Srinagar to help modernise the looms and equipment used in carpet weaving. The Corporation also proposes to establish a leather garment unit to cater to high fashion demands, sys the annual report.

HHEC has a fully owned subsidiary company, "Central Cottage Industries Corporation of India Limited" (CCIC) with an authorised capital of Rs. 10 million and a paid-up capital of Rs. 5 million. The turnover of CCIC during 1977-78 was Rs. 48.7 million as against Rs. 46.1 million in 1976-77 Its turn-over during January-December, 1978 is expected to be Rs. 49.9 million.

The major activities of the Corporation include retail sale of handicrafts and handloom products through its three emporia in Delhi, Bombay and Calcutta, as well as exports of high fashion ready-to-wear garments and handicrafts.

Larger Tourists Inflow from Different Countries

There has been an increase of over 100 percent in the number of tourists visiting India in 1978 from Sri Lanka over the figure of 1977. Nearly 66,370 tourists forming 8.9 percent of the total tourist arrivals in India were from Sri Lanka.

The United Kingdom continued to accupy number one position in the tourist traffic to India during 1978. The total number of tourist arrivals from United Kingdom was 95,784 accounting for 12.8 percent of the total arrivals as against 83,997 tourists (13.1 percent) in 1977. This was followed by the United States of America with 84,551 tourist arrivals constituting 11.3 percent as compared to 74,537 tourists (11.7 percent) in 1977.

Other major countries whose relative, shares in the total traffic were significant

included France with 6.9 percent, West Germany 6.6 percent, Italy, Japan, Australia, Malaysia and Canada each contributing nearly 4 percent of the total tourist traffic during 1978.

Arrivals from Persian Gulf countries, Afghanistan, Iran, Malaysia and Singapore registered an increase of 0.9 percent, 23.3 percent, 23.4 percent, 3.0 percent and 6.6 percent respectively

The Western Europe is consistently the top generating region for tourists inflow to India as witnessed in the early years. The principal regions which accounted for an increase in tourist flow during 1978 were South Asia, West Europe (including United Kingdom), North America and West Asia. Arrivals from South Asia registered an increase of 62.9 percent followed by Western Europe including the United Kingdom 12.5 percent, North America 13.2 percent, and West Asia 15 percent.

Other regions which also witnessed a substantial increase during the year 1978 were Eastern Europe 16.4 percent, Africa 8.6 percent, South East Asia 5.2 percent, Australia 6.8 percent, Central and South America 25.3 percent, and East Asia 3.1 percent.

The majority of tourists constituting 84 percent arrived in India during 1978 by air, 8.7 percent by land and 7.3 percent by sea.

Bombay has been the leading port of disembarkation for foreign tourists followed by Delhi since 1975. In 1978, 36.1 percent of the tourists arrived in Bombay, 31.4 percent at Delhi, 6.6 percent at Madras and 4.6 percent at Calcutta.

The number of tourist anrivals at Rameshwaram seaport witnessed an unprecedented increase from 7,190 touists in 1977 to 45,671 tourists in 1978. This recorded an increase of 535.2 percent. This was mainly on account of increased flow of tourist traffic from Sri Lanka.

Duty Concessions to Overseas Indians

The Government of India has decided to extend certain concessions available to persons of Indian origin permanently settled in Kenya, Zambia, Tanzania, Malawi, Laos and Zaire and now desirous of repatriation to India.

These concessions were originally given by the Government in 1964 and were extended from time to time till June 30, 1979. They were necessitated on account of the policy adopted by various countries, for which persons of Indian origin residing in those countries started returning to India for permanent settlement.

The concessions, which are now extended upto June 30, 1980, include exemption of goods from the whole of the duty of customs and the additional duty when imported into India. The goods include items like motor car, ornaments, jewellery, household goods, photographic goods, etc. Jewellery, personal household goods, etc. are exempt upto a value of Rs. 32,000 and used commercial vehicles and machinery, etc. upto a value of Rs. 16,000.

Indo-Japanese Financial Cooperation

The Governments of India and Japan exchanged at New Delhi, recently, notes concerning the Japanese project loan to India amounting to Yen 20 billion (equivalent to Rs. 740 million at the current exchange rate) for the Surat Fertilizer Project in Gujarat State.

The notes were exchanged between Dr. Manmohan Singh, Secretary, Department of Economic Affairs, Union Ministry of Finance, and Mr. Masao Kanazawa, Ambassador of Japan to India, on behalf of their respective Governments.

The salient features of the notes are as follows:—

(1) The loan will be made available for the implementation of the ammonia plants part of the Surat Fertilizer Project.

(2) The interest rate of the loan will be 3.0 percent per annum and will be repayable in 30 years, including grace period of ten years.

(3) The loan can be used to purchase goods and services both from Japan and from developing countries including India.

This loan is extended in response to the request made by the Government of India and in accordance with the pledge made by the Government of Japan at the Aid-India Consortium meeting in Paris in June, 1978 with a view to further contributing to the economic development of India.

The total commitments to India by Japan for the year 1978-79 would thus amount to Yen 30.7 billion (equivalent to Rs. 1,135.9 million at the current cexchange rate), including Yen 6 billion of commodity loan and Yen 4.7 billion of grant.

Industrial Growth and Diversification

Plate Mill Complex at Bhilai

A plate mill complex is being installed at Bhilai Steel Plant, as part of the plant's four million tonne expansion, at an estimated capital cost of Rs. 5,000 million.

The Complex has an annual capacity of 1.2 million tonnes of plates covering

a wide range in thickness, length and width. These plates will meet the requirements of defence, shipbuilding, petrochemical, fertiliser plants and other core heavy industries for which heavy plates are at present being imported at high costs.

Three consignments of heavy vertical and horizontal stands for the Plate Mill Complex from the Soviet Union reached Bhilai recently after unloading at the Visakhapatnam Port sometime back. A special ship having 2 derricks each with 350 tonne lifting capacity was engaged for carrying this heavy consignment from the Soviet Union. For inland transportation from Vizag special wagons were designed by the Research, Design and Standards Organisation of the Railways. The individual weight of the vertical stand is 196 tonnes to which a 48 tonne counter weight manufactured by Bhilai Steel Plant is fitted prior to rail transportation.

Expansion of Mineral Activities Planned

The Union Minister for Steel and Mines, Mr. Biju Patnaik, said recently that large-scale programmes of mineral exploration would be undertaken by the Government this year through it various agencies. He urged the mining industry, the small mine-owners in particular, to avail of the existing facilities to optimise mineral output. Inaugurating the 13th Annual General Meeting of the Federation of Indian Mineral Industries (FIMI) at New Delhi recently, the Minister said that where mineral exports were concerned, the country's interests would lie in trying to export material with as much value added to it as possible within the country. Subject to this, the fullest use should be made of the export possibilities of various minerals.

The Minister regretted that the data available with the government agencies on the economic possibilities of minerals to ensure profitability through economics in operation and to avoid wastage of this non-renewable asset were being utilised more by the larger mining organisations than by the smaller ones. He asked the Federation to bring the advantages of these facilities to the notice of the smaller mining units to assist them in making better use of their mineral holdings. Mr. Patnaik mentioned in this context the recent suggestions made by the Indian Bureau of Mines (IBM) on the recovery of saleable chromite from low grade chrome ores, utilisation of small size limestone hitherto being discarded and the utilisation of manganese ore fines.

The Minister said that the Geological Survey of India (GSI) was expanding both the scale and scope of its activities. New ore dressing laboratory facilities were being set up under the Indian Bureau of Mines at Ajmer and Bangalore, while the one at Nagpur was proposed to be substantially expanded. While the exploration reports of the GSI were being made available to the potential uses, the IBM consultancy services were being offered to small mine-owners at concessional rates.

Referring to the difficulties faced by the mining industry in the Eastern region due to the floods in West Bengal and the cyclone in Andhra Pradesh, which had restricted export activity through the ports due to traffic dislocation, the Minister said that the lasting solution to the problem would come only through improvement in the loading efficiency of Eastern ports like Paradeep and Haldia and promised to take this up with the Union Minister of Shipping. The laying of the Banspani-Jakhpura Railway line would also have to be taken up early for this purpose. Though there had been difficulties earlier in the availability of rakes at Barbil, Banspani and Bolani during January-March, 1979, resulting in suspension of iron ore offtake by Minerals and Metals Trading Corporation (MMTC), the Railways had now begun providing 50 rakes a month in this area and the MMTC was continuing to buy ore at the level of its procurement last year, despite its heavy stocks.

As for the steel plants, the existing iron ore capacity would be fully used before new mine capacity was created, At the same time, captive mines were necessary for a steel plant to ensure conformity in the quality of iron ore feed to them, he explained.

Mr. Patnaik also emphasised the need to bring in more qualified personnel into the mining industry as too many mines had been working without adequately qualified personnel. The general experience had been that the induction of qualified technical personnel had improved the output. He also urged the Federation to look beyond mineral deposits or equipments to the welfare of the miners.

In his presidential address, Mr. S. B. Mathur, President of FIMI, said that the mining industry was primarily a rural based industry, since the majority of its workers were drawn from the nearby villages. He said that the Federation had drawn up an "action plan" under which villages in the mining region would be identified for a survey on the nature of additional economic activity that could be initiated in agriculture, dairy development and cottage industry to accelerate the overall economic development of the region.

ITI's Expansion Plans

The Indian Telephone Industries (ITI) has drawn up plans for further expansion to meet the increasing demands of its customers during the Sixth Plan

period. In addiion, in an area of fast developing technology and quick obsolescence of products, ITI proposes to modernise and upgrade the existing plants during the plan not only towards production of new designs but also towards maintaining the efficiency of production and improving quality of its products.

To implement these objectives, the Planning Commission has approved an outlay of Rs. 841.9 million to the ITI during the Plan period. This covers Rs. 305.4 million for expansion and modernisation of existing units, Rs. 409.8 million for new schemes and Rs. 126.7 million for research and development.

The new schemes envisage setting up of the third transmission unit for manufacture of long distance equipment and the third switching unit for manufacture of crossbar type of switching equipment.

With the launching of this Plan, the production of the switching equipment will be further augmented to supply 1.567 million lines valued at about Rs. 3,000 million and consisting of 1.11 million lines of the strowger type, 0.345 million lines of the crossbar type and 0.112 million lines of the electronic type.

The manufacture of telephone instruments would also be increased to 2.85 million during the Plan valued at Rs. 860 million for meeting the full requirements of Posts and Telegraph and other users.

ITI also plans to manufacture Rs. 2,200 million worth of long distance tansmission equipment which will be substantially higher compared with the previous plan programmes.

During the plan period a greater thrust will be placed on R and D activities which will be further intensified and an investment of Rs. 126.7 million is proposed during the plan period. The R and D projects of ITI are self-contained programmes leading to definite quantity production of telecommunication equipment required by various users including P and T, Defence, Railways, Overseas Communication Service, etc.

During the Fifth Plan, one of the R and D efforts launched by P and T and ITI was towards improving and modernising crossbar equipment. A prototype of this exchange has already been manufactured meeting the Indian conditions and this has been installed for trials at Janpath, Delhi. The field trials of this equipment will decide the total improvements to be made in the further bulk production of the corss-bar switching equipment during the Sixth Plan.

Bombay Port to be Modernised

The Planning Commission has made a tentative povision of Rs. 3,900 million for the modernisation of ten major ports during the current plan. Out of this, the Bombay port is to get an allocation of Rs. 460.6 million for its development. The plant for modernisation include construction of an additional oil berth, purchase of a floating crane and two high-powered tugs and provision of container handling facilities.

Preparatory work on the additional oil berth at Butcher Island is in progress. A portion of submarine pipeline up to Pir Pau has already been completed. The contract for its construction at an estimated cost of Rs. 50.4 million is to be awarded soon. The project is scheduled to be completed by 1981.

A composite scheme costing about Rs. 77.3 million has been proposed for developing container handling facilities at the Port. As an interim measure, the Port Trust has entered into an agreement with Maritime Transport International which has installed a 200-tonne container handling mobile crane. The Port would have the option to purchase this equipment after two years when clear trends in containerisation would be available.

In order to handle World Bank tankers, it is proposed to procure two high-powered, motor driven tugs at a cost of Rs. 41.1 million. These will replace the two steam tugs 'Ajit' and 'Anil' which have outlived their utility.

An addiional 60-ton floating crane estimatd to cost about Rs. 40 million is to be acquired shortly. It will be manufactured indigenously.

In order to relieve the Bombay Port of its present congestion, it is proposed to have a Satellite Port at Nhava-Sheva. For this purpose, a provision of Rs. 250 million has been made in the Sixth Five Year Plan.

The Mehta Committee has also stressed the need for modernisation of ports. Out of Rs. 300 million recommended for purchase of equipment for the major ports, the Bombay Port is to get Rs. 100 million for purchase of 3 new pilot launches, modernisation of intercommunication equipment, replacement of about 30 hydraulic cranes by mobile tower cranes, purchase of 80 forklift trucks of higher capacity and seven weigh bridges.

The Port has been allowed to take up construction of residential quarters and school buildings at an approximate cost of Rs. 10 million. In all, about Rs. 47 million are likely to be spent during the plan period, for providing such facilities to workers.

Manufacture of Pesticide Items Relaxed

No proposal for the creation of additional pesticides formulation capacity is at

present considered unless it is linked with a time-bound programme for the manufacture of the connected technical material.

The Government of India had granted some relaxations in September, 1977 for making pesticidal formulations in lieu of the phased out or banned items. The Government has further reviewed the matter and has decided to allow further relaxational for substitution of new pesticide items.

Accordingly, for companies governed by Foreign Exchange Regulations Act (FERA) and Monopoly and Restrictive Trade Practices (MRTP) regulations, the restriction that the banned or phased out item and the item to be substituted should belong to the same group, has been removed. Now an insecticide or weedicide or herbicide etc. can be substituted by any pesticide without any group restriction.

For non-FERA and non-MRTP companies only, including small scale units, permission will be granted to substitute new items of pesticides or insecticides not only in lieu of banned or phased out items, but also for items which the units are unable to market or the production of which they want to discontinue.

Also, the new items need not be of the same group. A pesticide may be substituted for an insecticide or weedicide or herbicide, etc.

The new items may be locally available or imported items, provided that the proposal does not involve fresh investment by way of machinery or other capital equipment. Only one new item shall be substituted for one banned or phased out or deleted item.

The capacities for the new items shall be equal to the capacities for the replaced items if separate capacities have been fixed for the various items in the Industrial Licences or COB Licences Directorate Generat of Technical Development (DGTD) registrations or Registration Certificates issued by the Directors of Industries in the case of small scale units. Where separate capacities have not been fixed, they shall be within the total licensed capacities.

Units holding industrial icences should obtain permission for such substitution of new items for phased out or banned or deleted items by an endorsement by Secretariat for Industrial Approvals on their relevant industrial licences. In the case of others, such permission should be obtained from the authorities who issued Registration Certificates i.e. DGTD or Director of Industries.

Those wishing to avail themselves of the above relaxations should apply in the prescribed proforma to Department of Industrial Development (SIA) in case they hold Industrial licences and DGTD in case they hold DGTD registrations. Small scale industrial units should submit their requests through the Director of Industries of the State concerned to the office of the Development Commissioner, Small Scale Industries, Nirman Bhavan, New Delhi.

High Priority for Rural Electrification

Government has accorded high priority to the programme of electrification of rural areas and funds will not be a constraint in the implementation of the programme. This was stated recently by the Union Energy Minister. Mr. P. Ramachandran, while presiding over the meeting of the Consultative Committee of Parliament attached to his Ministry.

Mr. Ramachandran said that an allocation of Rs. 14,500 million has been made in the draft Plan for 1978-83 for rural electrification. This would be in addition to Rs. 3,000 million expected to be made available from financial institutions. Mr. Ramachandran said that the Plan envisages electrification of 100,000 additional villages and energisation of 2 million pumpsets.

The Minister said that the schemes for rural electrification are approved by the Rural Electrification Corporation (REC) for financial assistance and are implemented by the State Electricity Boards and Rural Electric Cooperative Societies. The electrification schemes envisage construction of power lines, installation of transformers and service connections to agricultural pumpsets, small scale industries, domestic and commercial services, and street lighting.

In reply to a question by a Member, Minister said that Coal India was planning to set up small power plants of say 10 MW each near coal mines for supply of uninterrupted power to the coal-belt area which was being affected by erratic supply of power leading to reduced production of coal.

Some Members suggested that coal mining and thermal generation should be developed quickly in the north-eastern States. The Minister told the meeting that the work on Korba Super Thermal Power Station in Madhya Pradesh was progressing according to schedule. The station will have initial capacity of 1100 MW and ultimate capacity of 2100 MW. He said that the Korba Power Station will be operated as a regional station and would augment the power availability in the western region. The first 200 MW set is expected to be commissioned in January 1983 and the subsequent 200 MW sets at intervals of six months each thereafter. The first 500 MW unit is programmed for commissioning in 1984-85.

The rural electrification programme

in the country has recorded good progress. Over 39 percent of the total number of villages, 225,000 out of a to tal of 577,000 villages had been electrified till December 1978. The number of villages electrified till March 1977 stood at 203,000. Rural electrification in the entire country is expected to be completed by 1994-95.

In some of the States like Punjab and Haryana centpercent villages have been electrified. Among the Union Territories, Chandigarh, Delhi and Pondicherry have the distinction of having achieved electrification of all the villages.

While in Tamil Nadu 98.7 percent of the villages are electrified, in Kerala the percentage comes to 97. Position in regard to villages electrified in other States and Union Territories is : Maharashtra-62.9 percent; Jammu and and Kashmir—62.5 percent, Karnataka —57.6 percent, Andhra Pradesh—55.4 percent, Gujarat—48.8 percent, Himachal Pradesh—47.6 percent, Rajasthan—32.1 percent, Uttar Pradesh—31.6 percent, West Bengal—31.4 percent, Orissa-30.3 percent, Bihar—27.9 percent, Nagaland—26.8 percent, Madhya Pradesh —26.5 percent, Sikkim—22.3 percent, Manipur—12.1 per cent, Assam—11.2 percent, Tripura—10.5 percent, Meghalaya—9.5 percent, Lakshadweep—90 percent; Goa, Daman and Diu—84.9 percent, Dadra and Nagar Haveli—72.2 percent, Andaman and Nicobar Islands—18.2 percent, Mizoram—6.5 percent and Arunachal Pradesh—4.9 percent.

The rural electrification has been receiving special consideration under the minimum needs programme. The criteria for implementation of the programme has been modified and the revised minimum needs programme envisages electrification of at least 50 percent villages in all the states till 1988. Funds under the programme are made available to the States on considerably soft terms.

The Rural Electrification Corporation has opened a number of regional offices in order to have a closer liaison with the State Electricity Boards and to assist them in the formulation and implementation of the rural electrification schemes.

Improved Performance of IDPL

The public sector Indian Drugs and Pharmaceuticals Limited (IDPL) increased its net profit from Rs. 41.1 million in 1976-77 to Rs. 76.6 million according to the Government's review of the working of the company for the year 1977-78 presented to the Lok Sabha by Mr. Narsingh, Union Minister of State for Petroleum, Chemicals and Fertilisers.

The increase in net profit was mainly due to financial and capital restructuring approved by the Government.

The total sales of the company, including imported bulk drugs, also rose from Rs. 731.3 million in 1976-77 to Rs. 791.6 million in 1977-78.

IDPL has three major units operating at present—The Antibiotics Plant at Rishikesh, Synthetic Drugs Plant at Hyderabad and the Surgical Instruments Plant at Madras. Its Rishikesh and Hyderabad plants are being expanded and a formulation plant is being added to its Surgical Instruments Plant at Madras. The company is in process of setting up new formulation plants at Muzaffarpur and Gurgaon.

According to the review, the expansion projects of the company were all under implementation. The expansion of Synthetic Drugs Plant at Hyderabad was expected to be completed by March, 1981 but the production of individual drugs had already started in the plant. The Nicotinamide plant of IDPL at Muzaffarpur, sanctioned in 1976, was being commissioned in two phases and nicotinamide was expected to be produced in the second Phase to be completed by October, 1979. The production of tablets and orals in the Gurgaon Formulation Unit has also commenced.

Duty Concessions on Certain Items

The Government of India has exempted wastes arising during the manufacture of crimped yarn and falling under sub-item (iv) of Item No. 18 of the First Schedule to the Central Excise and Salt Act, 1944 from so much of duty of excise leviable thereon as is in excess of Rs. 2.00 per kg.

In order to encourage and maximise the use of minor oils such as rice bran, neem, karanj, kusum and sal oils, in the manufacture of soap and conserve edible oils that would otherwise have had to be used in soap manufacture, Government of India has provided an incentive by way of reduction in the rates of central excise duty on soap with the conditions that certain fixed quantities of such oils were used in the manufacture of soap, with additional reduction of duties based on each percentage point increase of such oils beyond such fixed quantities.

Doubts had been raised whether the additional exemption from excise duty as related to each percentage point increase would be admissible only when the increase was in one or more full percentage point or points. Government has clarified by way of two amending notifications issued on June 23, 1979 that exemption from central excise duty will be available on the entire quantity of minor oils used in excess of the prescribed limits whether such increase is in full percentage point or points or in decimal percent point or points.

Keeping in view that there is no indigenous substitute for fundus camera and that it is used only for medical purposes, the Government has slashed down the import duty on fundus camera from the existing 166.2 percent to 45 percent (40 percent basic customs duty 5 percent auxiliary duty with no cvd). This took effect from June 16, 1979.

Fundus camera is used in eye hospitals and medical colleges and dispensaries as a medical apparatus. Representations had been made to Government for reducing the customs duty of 166.2 percent (100 percent basic customs duty 20, percent auxiliary customs duty and 21 percent countervailing excise duty).

RBI'S New Credit Policy

The credit policy for the current year outlined by the Governor of the Reserve Bank of India (RBI) at a meeting with bankers in Bombay recently, continues to lay stress on restraint on credit-expansion, according to the State Bank of India Newsletter.

At the meeting, the bankers were asked to keep this years' credit expansion to significantly lower levels both in relative and absolute terms than in 1978-79, during which period bank credit had expanded by Rs. 27,300 million. The need to curb credit expansion was felt to be specially relevant in the context of a large expansion of money supply in the last financial year and the recent increase in prices.

To curtail credit expansion, the bankers have been asked to evolve a set of internal guidelines. Credit limits are not to be adjusted upwards without full scrutiny. Great discretion is to be exercised while fixing new limits or increasing existing ones specially in regard to large accounts, i.e., those exceeding Rs. 5 million. Further, the banks should carefully monitor and restrict credit against sensitive commodities, particularly in respect of advances to traders. Banks should also ensure a better return flow of funds from such seasonal industries as sugar and textiles.

The Governor reiterated that the credit extended by banks should be restricted to what was available within their own resources and reliance on borrowing from the call money market and participation certificates should be kept as low as possible. The Governor further mentioned that the Study Group on participation certificates made two major recommendations, one to bring the funds raised through participation certificates under the purview of statutory liquidity ratio and cash reserve ratio and other being that the amount of funds raised through participation certificates should bear reasonable relatiohship to the banks' own resources.

Though it is not certian as to what factors have contributed to the recent increase in prices, it appears that increase in the prices of some of the basic commodities like steel and cement, high cost of imported raw materials and components and a sharp rise in the prices of crude oil have been mainly responsible for the recent increase in prices. Thus, the increase has been mainly due to the cost push factors rather than sudden increase in demand, though there is no doubt that in the present economic climate it is necessary to contain demand in the economy. Need for doing so is all the more in the context of the faster rise of money supply in the last few years.

Science and Technology

ECIL's Versatile Logic Controller

The Electronics Corporation of India Limited (ECIL) has developed a programmable logic controller (PLC) that has varied applications in industry. The contr ller can be used in virtually every process plant where process safety and interlocking have to be taken care of.

ECIL has installed a unit at the Nagarjuna Steel Limited, at Hyderabad- the first time that such a system has been installed in a steel plant in India.ECIL can also supply proven PLCs for equipping steel plants in India such as Bokaro for the expansion of its cold rolling mill complex.

Besides its use in steel plants, the PLC can be used in thermal power, cement and petrochemical plants and in the fertilizer industry.

In the chemical, petrochemical and fertilizer plants, the PLC performs different logic functions associated with process variables such as pressure, temperature, flow level etc. and provides safety interlocks. The unit can also control multi-station transfer machines, jig mills, etc. Any changes required in machine operation can be easily made by the controller.

All boiler control functions can be performed by the programmable logic-controller. It provides sequence control for automatic pilot ignition, main burner ignition, automatic safety shutdown etc.

The PLC has a significant application potential in vacuum process control, power generation, marine power plant control, airconditioning and refrigeratation.

The unit incorporates the latest third generation integrated circuitry that ensures high reliability of operation. Built in modular style, it provides for ease of servicing and maintenance.

Strengthening Science and Technology

Promotion of Research and Develop-

ment (R and D) to strengthen the base of sience and technology (S and T) in the country and high priority to S and T projects for rural development have been the important features of work of the Department of Science and Technology, according to the annual report—1078-79 of the Department. Great stress was laid during the year, on new energy sources; oceanographic sciences; instrument and machinery development, strengthening of information systems on S and T; Collabora tive Programmes with other countries; and All India Co-ordinated Projects.

The National Committee on Science and Technology (NCST) prepared a Technology Policy Statement during the year. The Committee has suggested an urgent need for strengthening the infrastructure of research at educational institutions by providing greater financial support for modernisation of facilities.

National Committee on Environmental Planning and Co-ordination (NCEPC) funded many projects under the Man and Biosphere Programme and Environmental Research Committee.

All major power and fertilizer projects are now being sent to NCEPC for an environmental impact assessment.

Extensive efforts have been made to explore the potential of using non-conventional energy sources, keeping in view the energy crisis. Utilisation of solar energy for rural applications such as solar drying of agricultural produce, water pumping and power generation received special attention. R and D efforts were directed to bring down the cost of biogas plants and to ensure their continued working in all climatic conditions.

Some major breakthrough have been achieved in the areas of newer fibres and composites in development of E—glass composition, its fabrication in ceramic bushings, production of continuous carbon and graphite fibres from PAN and other sources. Projects have also been developed to utilise the technology for industrial application, and on development of resin composites.

The programme for the development of optical and optoelectric instruments progressed well and many sophisticated instruments have been developed.

The Central Electronics Limited has successfully commercialised electronic grade materials, components and high technology systems based on know -how from various national laboratories.

The National Remote Sensing Agency, has completed several operational projects relating to the survey of natural resources. An Earth Station is being set-up to receive data directly from the Landsat series of satellites of NASA (USA). This data would be needed for land use studies, crop inventories, monitoring floods, estimating damages due to natural disaster, and for planning the optimal utilisation of resources.

Projects have also been identified on the application of science and technology for rural development. A multi-institutional programme at the Centre of Science for Villages at Wardha; rural environmental sanitation and protection project; improvement in the design of bullock cart are being implemented.

All India Co-ordinated Project on the use of blue green algae in rice fields has yielded encouraging results in Tamil Nadu. The technology has been extended to the village level. The preparation of liquid seaweed fertilizer, tests on feeding trails of algae, and methane production by mixing algae with other animal and agricultural wastes have also shown promising results.

Great emphasis has been given to the optimum utilisation of natural resources. In the forestry sector, 63 S and T schemes identified by NCST are being implemented. A Working Group was set up to identify new occupations for the physically handicapped by utilising indigenous technology.

Fifty-six R and D units have been recognised this year making the total 108. The Department has also participated in the activities related to analysis of import of technology and evaluation of sophisticated technology.

Several measures have been taken to promote scientific and technological cooperation among the developed and developing countries. New areas of cooperation with Soviet Union, Hungary, GDR and Sweden have been identified and several collaborative research projects have been formulated for implementation between India and USA. A national paper for the forthcoming "UN Conference on Science and Technology for Development" has been submitted.

Under the Science and Engineering Research Council, some important projects in the areas of biomedical, engineering and biological sciences and solid state chemistry have yielded valuable results. To review and assess the progress made in the working of 4 Regional Sophisticated Instrumentation Centres set up by the Department, a High Power Committee has been constituted which is preparing guidelines for the future plan of action.

The Council of Scientific and Industrial Research (CSIR), with its chain of national laboratories, has been engaged on a wide range of projects in the areas of physical and earth sciences, biological, chemical and engineering sciences and information systems. Projects aimed at rural development have been accorded high priority. A centre for

Cellular and Molecular Biology has been set-up at Regional Research Laborory Hyderabad. A Technology Delivery System to transfer laboratory know-how to villages has also been prepared and specific programmes for generating low-ocst simple technology have been identified.

Revised Standards Published by ISI

Indian Standards Institution (ISI) has published the first revision of an Indian Standard specification for industrial luminaire with metal reflectors (IS: 1777-1978) which covers a range of general type of industrial luminaire with metal reflectors for use with incandescent, fluorescent, mercury-vapour and other high pressure gas discharge lamps. This standard was first published in 1961. This revision has been undertaken to take into account the considerable developments in designs, manufacturing techniques and materials that have taken place since its first publication. In this revision, opportunity has also been utilized to include the tests which are essential for checking the safety and performance requirements of such luminaires.

Apart from metals, such as aluminium and steel, non-metals are also being extensively used for industrial luminaires these days. However, since the luminaires, made out of non-metals have different properties, the scope of this standard has been restricted to industrial luminaires making use of metal reflectors only. Luminaires having reflectors made of other materials will be covered in separate Indian standards.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

ISI has also published the first revision of an Indian Standard specification for Table Tennis Rackets (IS : 4141-1978), which lays down the material, dimensional and constructional requirements for table tennis rackets. This standard was first published in 1967 and is being revised to incorporate the suggestions received from time to time.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Another standard published by ISI is the first revision of an Indian Standard specification for Phth lic Anhydride, Technical (TS:5158-1977), which prescribes the requirements and the methods of sampling and test for phthalic anhydride, technical, suitable for industrial purposes. This standard was first published in 1969. As a result of the periodical review of the quality of product available and that specified in Indian as well as various overseas standards, the Sectional Committee concerned decided to revise the standard. In the present revision the requirements for crystallizing point, colour of the molten material and total available acidity content have been modified.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Development of Small Industries

The Small Industries Development Organisation (SIDO) acts as a policy formulating, coordinating and monitoring agency for development of small scale industries. It coordinates policies and programmes for development of small scale industries including the District Industries Centres (DIC), industrial estates and ancillary development programme. It maintains close liaison with Central Ministries and State Governments, Planning Commission, Reserve Bank of India and other financial institutions concerned with the development of small industries. It functions through a network of 25 Small Industries Service Institutes (SISI), 18 Branch SISIs, 41 Extension Centres, 4 Regional Testing Centres, 1 Produce and Process Development Centre, 3 Footwear Training Centres and 5 Production Centres, according to the annual report of the Union Ministry of Industry for 1978-79.

The new Industrial Policy announced in December 1977, emphasises effective promotion of cottage and small scale industries widely dispersed in rural areas and small towns. The small sector will be allowed to produce whatever is capable of being produced in this sector and 807 items have been reserved for the small scale sector, Further, the tiny sector has been identified (Rs. 100,000 capital investment in towns with population of less than 50,000) and special schemes have been formulated, for the sector. Lastly, decentralization of industrial administration through District Industries Centres was aimed at, says the annual report.

The focal point of development of small scale and cottage industries has taken away from the big cities and in each district, a DIC has been set up as a nodal agency to deal with all the requirements of small and village industries. In less than one year, 246 DIC's have been set up all over the country. Under the single roof of the centre, all services and support re-

quired by small and village enterprises are to be provided. The Centres would undertake economic investigation of the potentials for development of the district, including raw materials and other resources, supply of machinery and equipment, provision of raw materials, effective arrangement for credit facilities marketing assistance, quality control, research, extension and entrepreneurial development.

The scheme is being financed by the Government of India as a centrally Sponsored scheme which would be implemented by the State Governments/ Union Territories as per guidelines issued by the Central Government from time to time. During the year 1978-79 120,000 industrial units were to be set-up through the DICs which would have an investment of Rs, 3,750 million. These units would provide employment to about 600,000.

The number of small scale industrial units under the purview of SIDO, increased from 260,000 in 1976 to 287,000 in 1977. The total value of production of small scale units both registered and unregistered is estimated to have been increased from Rs. 124,000 million in 1976 to about Rs. 140,000 million in 1977, according to the annual report.

Apart from technical guidance and advice provided by SISIs, certain specialised institutions have been set up by SIDO which include Regional Testing Centres, Product and Process Development Centre in Glass and Ceramics and Tool Rooms and Training Centres. An intensive programme for modernising existing SISIs and Extension Centre Workshop has also been taken up. The programme for modernisation of selected industries covered 55 industries—20 on all-India basis and the remaining in areas of concentration of particular industries.

During the year, 10 industry workshops and clinics were organised, 12 modernisation courses conducted, 50 status papers revised and 80 quick studies completed.

The Economic Investigation Divisions at the Centre and in the SISIs cater to the requirements of a large number of entrepreneurs, artisans and technocrats and help in the selection of new items of production or expansion of existing ones. The Divisions conducted about 400 area surveys, feasibility studies, market research studies, impact of reservation studies etc. and also prepared industry prospect sheets.

During the year under review, 345 technical training courses were organised for workers of small scale industries in which about 1,700 workers participated ; and 93 specialised courses were organised for managerial personnel of small scale industries. About 20 seminars/conferences on various aspects of development were also organiseid.

As regards marketing assistance, subcontracting exchange have been set up in different SISIs and these have processed about 4,000 inquiries from large and small scale units and have so far assisted more than 7,000 units in obtaining orders and contracts from the large scale units. Six trade centres have already started functioning at Ludhiana, Jaipur, Kanpur, Patna, Bangalore and Delhi, while 5 centres have been sanctioned during the year. Upto September 1978, 1934 tenders were processed and orders placed in respect of 1,216 tenders valued at Rs. 343.5 million, with small scale units.

The value of exports from the small scale sector is expected to increase from Rs. 8,780 million in 1977-78 to about Rs. 10,000 million during 1978-79. Major contribution of exports from the small scale sector was from finished leather and leather manufactures, engineering goods, ready-made garments, marine products, cashew kernels, tanned hides and skins, processed food and sports goods.

The annual report says that effective steps have been taken to ensure increasing flow of credit to small scale sector from financial institutions. These include instructions issued by the Reserve Bank of India (RBI) that no worthwhile proposal of small units be rejected on condition of margin money ; that the rescheduling of outstanding debts be done in the event of natural calamity, power failure etc., and that the recovery of interest on loan be based on the surplus generated by units. Another directive of the RBI relates to reduction of period of scrutiny of loan application. Branch Managers would be vested with adequate discretionary powers for ensuring that 60 to 80 percent of the credit decisions are taken at their level.

An important achievement of the year is the creation of a separate 'window' in the Industrial Development Bank of India (IDBI) exclusively for the small scale sector. IDBI have also liberalised many of its conditions so that State Financial Corporations get automatic refinance on the advances made to the small scale units.

The credit Guarantee Scheme introduced in 1960, continued to operate successfully during the year also. Upto the end of September, 1978, 720 credit institutions have been approved. By September 1978, the guaranteed advances went upto Rs. 26,200 million against Rs. 21,470 million in March 1977. This increase reflects the enlargement of both credit facilities as well as increase in the number of credit

institutions availing of 'guarantee cover under the scheme.

Exports from SIDO were deputed during the year, to Bhutan, Mauritius, Syria, Tanzania, Zambia and Botsewana on the request of these countries. Two SIDO experts were also deputed for the ESCAP Project of Integrated Industrialisation in Non-Metropolitan Areas in South East Asian countries. During the year, 18 foreign delegations visited India for studying the pattern of small scale industries development.

In the context of the new Industrial Policy, further measures have been taken to energise the programme of development of industrial cooperatives in the country. Comprehensive guide—lines have been prepared and circulated, to all State Governments. Further a high level Standing Committee on Industrial Cooperatives, under the Chairmanship of Union Minister of State for Industry has been constituted for providing future guidelines for promotion of this programme.

Greater emphasis is being laid on appropriate technology in improving productivity and earning capacity of workers in small and village industries. Government is currently considering a proposal to set up a National Board for the promotion of appropriate technology in India. The aim of this organisation would be technological upgrading/scaling down of processes; formulation of package of policy programmes and support measures sector-wise and product-wise, a feedback system, etc.

With a veiw to attracting investment in the hitherto backward and undeveloped areas, Government of India has launched a special programme of subsidies and fiscal incentives. For this purpose, 246 districts have been declared as industrially backward. Certain special facilities and incentives in the form of concessional finance, relief in income tax, etc. are being provided. In 101 districts, industries are eligible for the investment subsidy as an out-right grant at the rate of 15 percent on fixed capital such as land, building, plant and machinery. The maximum amount of subsidy payable is restricted to Rs. 1.5 million per industrial unit. Transport subsidy to the extent of 50 percent of transport costs of raw materials and finished products from selected rail-heads/ports, is also provided. This Scheme covers States of Jammu and Kashmir, Himachal Pradesh, Sikkim, hilly areas of Uttar Pradesh, North-East Region comprising the States of Assam, Meghalaya, Manipur, Nagaland, Tripura, and the Union Territories of Arunachal Pradesh, Andaman and Nicobar Islands, Mizoram and Lakshdweep. Since the inception of these schemes, a sum of Rs. 495.2 million has been reimbursed to various State Governments/Union Terrirotry Administrations.

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Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Damascus International Fair, Damascus (Syria)	July 4—23, 1979
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Thessoloniki International Fair, Thessoloniki (Greece)	November 25—29, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economi and commercial news

News Highlights

India Bags Another Project in Iraq

India has secured the tenth project in Iraq in the current year with the award of the Kerbala trunk sewer to Bridge and Roof, a Government of India public sector enterprise. The project, which is valued at Rs. 55 million, is to be completed in two years (Page 2)

Indo-FRG Cooperation in Solar Energy

India and the Federal Republic of Germany would further cooperate in the field of alternate sources of energy specially the solar and wind energy. An agreement to this effect was reached during the recent visit of the Union Energy Minister, Mr. P. Ramachandran, to FRG.

FRG has also shown interest in setting up a 20 megawatt solar energy plant in India. A 10 kilowatt solar energy plant has already been set up in Madras with FRG assistance.

Uptrend in Zinc and Lead Output

The output of zinc in the country went up by nearly 50 percent to 64,281 tonnes in 1978-79 from 43,128 tonnes in 1977-78. The production of lead in 1978-79 was 10,475 tonnes, representing an increase of 38.87 percent over 7,543 tonnes produced in the previous year.

(Contd. on page 2)

Export Performance and Potential

Committee on Export Strategy Set Up

The Government of India has set up a Committee to formulate long-term strategy and perspective plan for India's exports during 1980s. The Committee is headed by Mr. P.L. Tandon, Director General, National Council for Applied Economic Research (NCAER). Its other members are : Mr. G.V.K. Rao, Member, Planning Commission ; Dr S. Krishnaswamy, Deputy Governor, Reserve Bank of India, Bombay; Mr. Mantosh Sondhi, Secretary, Department of Steel; Mr. Romesh Bhandari, Additional Secretary, Ministry of External Affairs; Mr. Rahul Bajaj, President, Association of Indian Engineering Industry; Dr. D.K. Rangnekar, Editor, Business Standard, Calcutta; Prof. Amit Bahaduri, Chairman, Centre of Development Planning, Jawaharlal Nehru University; Mr. Mohendra G. Mehta, Chairman, Gem and Jewellery Export Promotion Councuil; Mr. Brij Nehru, Managing Director, Tata Exports, Bombay; Dr. N.C.B. Nath, Chairman, Ganesh Flour Mill Co. Ltd., and Mr. A. Hafizur-Rehman, South East Tanning Co., Madras.

Dr. Vijay L. Kelkar, Economic Adviser, Ministry of Commerce, Civil Supplies and Cooperation, will be the member Secretary.

The terms of reference of the Committee are: to work out scenarios for the developments in the world economy over the next decade; to formulate export strategy including identification of dynamic export markets and commodities; to recommend a suitable framework of national policies and steps required for creating an adequate production base and surplus for export in both manufacturing and agricultural sectors; to recommend measures for developing the required institutional and physical infrastructure

...ng the current year, it is proposed to ...ise lead production by 38 percent to 15,000 tonnes. The target for zinc in 1979-80 is 73,000 tonnes, which indicates an increase of 13.56 percent over 1978-79.

(Page 6)

Indian Credit for Tanzania

India has made available to Tanzania a credit amounting to Rs. 4 million under an agreement signed recently between India and Tanzania in Dar-es-Salaam.

The credit, which is on concessional terms, is to enable Tanzania Petroleum Development Corporation (TPDC) to make payments to the Oil and Natural Gas Commission of India (ONGC) for gas and oil exploration in Songo Island being undertaken on the basis of an earlier agreement concluded between TPDC and ONGC on February 19, 1978.

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for effective export promotion and international marketing; to recommend measures for strengthening the role of the public sector in the country's export drive; and to review the Export Policy Resolution and to suggest amendments thereto.

The Committee will submit its report as soon as possible and in any case not later than June 30, 1980.

During the last two years, Government have endeavoured to give a new orientation to India's foreign trade policies, recognising that exports have a vital role to play in the achievement of the country's development objectives and that export expansion on a stable and long-term basis is of imense importance to the national economy. In the context of current developments in the international economy and especially the new complexities that are emerging in the world trading environment, it has become necessary to undertake an in-depth study of the future Indian export strategy.

India Secures 10th Project in Iraq

India has secured the tenth project in Iraq in the current year with the award of the Kerbala trunk sewer to Bridge and Roof, a Government of India public sector enterprise.

This project, which is valued at Rs. 55 million, is to be completed in two years. With the award of this project the value of the Indian projects secured in 1979 upto now stands at Rs. 1,455 million.

It will be recalled that the earlier nine projects secured this year are in various fields like construction of flyovers, bridges, culverts, housing complexes besides the prestigious Council of Ministers building.

In 1978, the Indian firms had secured eleven projects in Iraq valued at over Rs. 2,000 million. All told 21 projects, valued at approximately Rs. 3,500 million are now being executed by the Indian firms in Iraq.

India and Bulgaria Sign Trade Protocol

During his recent visit to Bulgaria, Mr. Mohan Dharia, Union Minister of Commerce, Civil Supplies and Cooperation and the Bulgarian Foreign Trade Minister, Mr. Hristov signed a trade protocol in which they agreed in principle on :

(i) new forms of cooperation including third country joint ventures;

(ii) long-term arrangements for mutual deliveries of different commodities and products, including fertilisers and electronic goods from Bulgaria, and iron ore, leather and leather goods and heavy earth moving equipment from India ; and

(iii) time-bound programme for doubling in volume of Indo-Bulgarian trade between 1980 and 1985.

Mr. Mohan Dharia accompanied by Commerce Secretary, Mr. C.R. Krishnaswamy Rao Sahib and Indian Ambassador, Mr. S.H. Desai called on President Todor Zhivkov of Bulgaria. In a meeting lasting over 50 minutes President Zhivkov expressed great satisfaction at the steadily developing political and economic relations between Bulgaria and India. He said that there was great scope for expansion of economic and trade relations between the two countries on the basis of many complementarities in their respective development pattern. He added, he was most happy at the recent many high level visits from India to Bulgaria. He was eagerly looking forward to the visit of the President of India, Mr. Neelam Sanjiva Reddy to Bulgaria later this year.

Mr. Dharia thanked President Zhivkov and said that in his discussion with the Foreign Trade Minister, Mr. Hristov, they have agreed to expand trade and cooperation in many economic fields. He assured the President of India's full efforts to achieve the goals set. He explained India's position on international economic issues facing the developing countries and emphasised the need for utmost cooperation between the socialist countries of Europe and the developing countries for achieving a better world economic order.

President Zhivkov, agreeing entirely with the views of Mr. Dharia, said that despite Bulgaria's many problems and scarce natural resources they were doing everything to expand cooperation with the developing countries of Africa and Asia. He assured the Commerce Minister of the Socialist camp's full support to the aspirations of the poorer countries of the world.

Indo-Italian Joint Committee Meeting

In the Indo-Italian Joint Committee Meeting held in Rome on June 28 and 29, 1979, new procedure for utilisation of Italian credit was agreed to. It has was decided that instead of case-by-case approach, the Government of India will now send to the Government of Italy a statement showing the names of Indian companies, allocations of available Italian credits and the list of goods and commodities likely to be purchased by them over a period of time. On receiving such statements, the Government of Italy would indicate their agreement to the Indian proposals as expeditiously as possible. Thereafter, Indian companies will be free to enter into commercial contracts with Italian firms. The Italian Government also indicated that it would be favourably inclined to consider increasing the credit amount permitted in the Aid India Consortium, particularly for large purchase of plants and machineries in the framework of international discussions and agreements.

The Indian delegation was led by Mr. C.R. Krishnaswamy Rao Sahib, Commerce Secretary, Officials of the Departments of Commerce, Heavy Industry and Economic Affairs as well as some representatives of trade and industry took part in the Joint Committee meeting.

In the meeting, the representatives of the two governments also felt that the present level of trade between the two countries was too small, considering the potentialities. To promote much bigger volume of trade as also diversification of the export product base, institutional arrangements for exchange of information between the trade and industry on both sides have been finalised. The Italian Institute of Foreign Trade has been identified as the focal point in Italy through which information regarding capabilities of Indian firms in respect of production of quality products and undertaking construction and consultancy assignments would be disseminated among the businessmen and industrialists of Italy. The need for cooperation in undertaking the third-country projects was aslo recognised, and it was felt that there was good prospect for such cooperation based on joint bidding, post-tender negotiations and sub-contracting.

The Italian Government also agreed to consider participation in the India International Trade Fair to be held in Delhi in November 1979. They would be encouraging Italian firms to participate in this Fair.

In the meeting, India's particular concern regarding restrictions on the export of textiles and jute in the EEC as also regarding problems of tariff on tobacco was stressed
side took note of these p

Towards Higher Ex Exports

As the top foreign excha earner in 1978-79, engineering exports from India have brought about a significant qualitative change in country's foreign trade profile. Their performance during the last ten years has been one of steady growth as will be seen fr m the following table :

Year	*Exports (Rs. in million)*	*Percentage growth over the previous year*
1969-70	1,056.3	—
1970-71	1,157.7	9
1971-72	1,252.7	8
1972-73	1,417.8	13
1973-74	1,934.7	36
1974-75	3,491.1	80
1975-76	4,082.2	17
1976-77	5,516.8	35
1977-78	6,239.6	12
1978-79	6,850.0	10

The Engineering Export Promotion Council (EEPC) has fixed a target of Rs. 8,500 million for 1979-80 and Rs. 10,000 million for 1980-81. Assuming an annual growth rate of 10 percent, the minimum that the Council proposes to aim at during the next decade is as under :

Year	*Target (at 10 percent growth)*
	(Rs. in million)
1981-82	11,000
1982-83	12,100
1983-84	13,310

1984-85	14,640
1985-86	16,100
1986-87	17,710
1987-88	19,480
1988-89	20,430
1989-90	22,470
1990-91	24,710

Achievement of the above target is well within the reach of the industry but calls for a concerted and well coordinated plan of action. Certain developments in the country as well as outside are going to have an influence on India's export. External factors like emergence of China as a gigantic economic force, protectionist tendencies in the world, introduction of MTN and possible erosion of GSP benefits and political changes in some of the West Asian and African countries will have to be watched.

Certain domestic factors which have cropped up recently may have an adverse impact on the short term projection but it is hoped that they will ultimately be solved and exporters will not have to work under continued shortages of basic inputs and lack of infrastructures.

While engineering exports in the past were confined to simple consumer durables and iron and steel based items, capital goods and turnkey projects have now started playing a major role as will be seen from the following table showing the break-up of exports during 1978-79 :

Product group	*Percentage of total exports*
Capital goods and turnkey projects	38
Iron and steel based products	24
Non-ferrous based products	3
Consumer durables	35
Total	100

Among the capital goods, sectors which offer significant growth potential are : textile machinery; sugar machinery; food processing machinery; coke oven plants; tractors and excavators, electric power machinery; transmission line towers and conductors; wagons and coaches; commercial vehicles; machine tools; heating and cooling equipment; boilers, pressure vessels and heat exchangers; and cranes and lifts.

It is estimated that by the end of the next decade, this sector will raise its present level of 38 percent to 50 percent of the total. In other words, capital goods exports by 1990-91 would be around Rs. 12,000 million.

Other growth potential items in the category of iron and steel based and consumer durables are : pipes and tubes, bright bars, wire products, industrial fasteners, wire ropes, sanitary castings and industrial castings; and auto parts, bicycles and bicycle parts, hand tools and cutting tools, diesel engines, fuel injection equipment and compressors, mechanical pumps, electric fans, electronic components and systems, storage batteries and scienctific and surgical instruments.

The contribution of the above identified items is 86 percent of the total export.

The world export of engineering goods in 1976 was around $ 365 billion. Assuming an annual growth of 10 percent, the level of world export is likely to be around $ 1,200 billion. There would thus be no dearth of markets. However, instead of spreading too thin, it would be advisable to concentrate on a few selected growth potential markets. The markets identified by the EEPC are the following :

(A) South East Asia—Indonesia, Malaysia, Philippines, Singapore, Sri Lanka and Thailand.

(B) West Asia—Bahrain, Iran, Iraq, Jordan, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates (Abu Dhabi and Dubai).

(C) Africa—Kenya, Malawi, Tanzania, Uganda, Zambia, ARE, Libya, Ghana and Nigeria.

(D) West Europe—Belgium, Denmark, France, Germany—FR, Holland, Italy, Ireland, UK and Sweden.

(E) East Europe—Yugoslavia and USSR.

(F) North America—Canada and USA.

(G) Australasia—Australia and New Zealand.

These 39 countries are presently accounting for 83 percent of the total export.

EEPC is presently discussing a strategy for the next decade and once the Working Committee has approved of it, the Council would launch a vigorous drive to adhieve the objective.

Solo Indian Trade Exhibition at Dubai

The Government of India will be holding a solo Indian Trade Exhibition at Dubai from January 15 to 30, 1980 to promote exports of Indian merchandise and industrial machinery to the United Arab Emirates and its surrounding countries. The exhibition is also likely to cultivate good contacts for joint ventures in United Arab Emirates.

Trade with Dubai has assumed a lot of significance specially in the wake of major developmental programmes undertaken by the UAE and import of capital and intermediate goods, consumers goods and also technical services. There is a tremendous upsurge for import of construction and building

machinery also. Dubai is an important entrepot to the lower gulf region and is an import centre for passing of goods to Iran, Saudi Arabia and other neighbouring regions.

Industrial projects undertaken by the Sheikhdom include inter-state roads, Urban Water and Electricity Schemes, Housing and Urban Development Rural Water Supplies, Agricultural Extension Schemes, investigations into water, mineral resources etc. Despite stiff competition from developed countries like the United Kingdom, United States of America, West Germany and Saudi Arabia, India stands fair chances in this market.

Since October 1972, trade between one Emirate and another has been free of duty. The main items imported into UAE are transport equipment, oil exploration machinery, oilfield and road equipment, manufactured items and foodstuffs. India's trade with UAE (Abu Dhabi and Dubai) has been increasing steadily year after year. During the year 1977-78 India's exports to UAE amounted to Rs. 1,420 million. The main items exported from India to Dubai have been iron and steel, electrical and non-electrical machinery, textiles, manufactures of metals and non-mettallic, mineral manufactures, transport equipment, chemicals, crude minerals, wood and cork manufactures, rubber manufactures, spices, meat, vegetable and miscellaneous manufactured goods. Imports from UAE during this period amounted to Rs. 738.4 million.

In the past few years a number of Indian companies have obtained project contracts and sub-contracts in UAE. The Projects and Equipment Corporation of India have obtained some important orders for exports to UAE which relate to supply of steel tubes and poles.

The Indian Trade Exhibition offers an important opportunity to trade and industry in India for introducing its exportable merchandise and to establish contacts for setting up joint ventures in this region.

Export of Wheat Products Encouraged

The Union Minister of State for Agriculture and Irrigation, Mr. Bhanu Pratap Singh, called upon the flour milling industry to take necessary steps in establishing regular markets abroad for wheat products and take advantage of the policy announced some time back. He said the Government will consider allowing the increased export only after watching the performance against the quantity already fixed for export. The Minister was inaugurating the 39th Annual General Meeting of the Roller Flour Millers Federation of India at New Delhi, recently.

The Minister said that the country has now begun exporting foodgrains though not commercially. Foodgrains assistance was given to friendly countries like Afghanistan, Bangladesh, Vietnam and Mauritius to help them tide over their difficult food situation. Private traders and exporters were also allowed to export 50,000 tonnes of wheat products.

Referring to the suggestion regarding reduction of import duty on flour milling machinery from the present level of 40 to 10 percent, at least in regard to replacements which are essential, Mr. Bhanu Pratap Singh said that it will be considered after the industry has done a detailed review and drawn up specific proposals in a time frame. The replacement requirements should, as far as possible, be met from indigenous sources.

The Minister said that the Centre has built up sizeable stocks of foodgrains to maintain the public distribution system and supplies to roller-flour mills and chakkies as also to serve as buffer stocks in times of need. He said that in fulfilment of their price support policy, the Government has procured as much as 7.2 million tonnes of wheat so far which is an all-time record. The stocks of wheat and rice in the country on June 1 were 9.9 million tonnes and 9.5 million tonnes respectively. He was hopeful that with the normal monsoon it will be possible to maintain the increasing trend in production and procurement this year also.

The Minister advised the industry to consider diversifying their operation by utilising the wheat bran for manufacture of animal feeds. As regards its export, he said the Government has reviewed the question of allowing it in the light of the local requirements for cattle and poultry feed purpose.

He urged the industry to immediately make assessment of the existing plant and machinery and draw up a time bound programme for the replacement of obsolete and worn out machinery to fully utilise the licenced capacities which have been created at considerable costs.

The Minister was happy to note that the International School of Milling Technology will be set up soon in Mysore. He expressed the hope that training at the School would be designed to achieve better extraction of wheat products and ensure good quality of the products manufactured. He asked the industry to take up research, development and extension work and apply it in popularising wheat products and developing wheat product based items.

Revision of Tariff Values for Dry Fruits

Customs duties on all articles imported

into India are generally levied on *ad valorem* basis (on the C.I.F. value of the goods). In certain cases, however, Government reserves the power to fix tariff values, which will be taken in preference to invoice values for charging *ad valorem* duties. In the case of dry fruits such as almonds, resins and dates and certain others, Government of India had fixed tariff values for the purpose of charging customs duty, particularly, when imported from Iran and Afghanistan.

In line with the trend in the prices of these articles in the international market, and representations made to the Government, the existing tariff values have been reviewed and the revised tariff values have been fixed in respect of almonds, resins and dates when imported from Iran and Afghanistan.

The tariff values came into force with effect from June 27, 1979. Simultaneously, tariff values in respect of other dry fruits/fresh fruits have been abolished.

Industrial Growth and Diversification

Record Increase in Zinc and Lead Production

Production of zinc and lead showed record increase last year. Output of zinc went up by nearly 50 percent, to 64,281 tonnes during 1978-79 from 43,128 tonnes in 1977-78. The output of lead in 1978-79 was 10,475 tonnes, representing an increase of 38.87 percent over 7,543 tonnes produced in the previous year.

During the current year, it is proposed to raise lead production by 38 percent to 15,000 tonnes. The target for zinc in 1979-80 is 73,000 tonnes, which indicates an increase of 13.56 percent over the year 1978-79. Stabilisation of operations at Vizag zinc smelter, commissioned on schedule last year, facilitated the record achievement in 1978-79.

To achieve self-sufficiency in lead and zinc and progressively reduce imports, a series of decisions were taken last year to expand capacity through the development of new mines and to create more smelting capacity to match ore production. As a result of these measures, the total installed capacity in the public sector in respect of zinc will be raised from the current 75,000 tonnes to 95,000 tonnes per year by 1982-83, while installed capacity in lead is planned to be raised from 18,000 tonnes to 30,000 tonnes by 1982-83. Capacity may be expanded later to further narrow down the gap that may still remain. It may be mentioned that India was almost entirely dependent on imports for zinc metal till 1967, except for small quantities of the metal received back after smelting on a toll basis out of the zinc concentrates from Zawar in Rajasthan.

Among the steps taken to increase production was the clearance given in January, 1979 to two new mines involving total outlay of Rs. 140.3 million. This includes the development of the new lead mine at Sargipalli in Orissa at a cost of Rs. 118.8 million, which will produce 500 tonnes of lead ore per day yielding 6,400 tonnes of lead metal per year. The other is the lead-zinc mine at Baroi in Rajasthan to be explored at a cost of Rs. 21.5 million. The Agnigundala lead mine in Andhra Pradesh was transferred from the Hindustan Copper Limited (HCL) to the Hindustan Zinc in October, 1978.

To treat this additional ore production, the lead smelter at Tundoo in Bihar will be expanded from its current annual capacity of 8,000 tonnes to 10,000 tonnes and the Vizag lead smelter from 10,000 tonnes to 20,000 tonnes per annum.

Zinc ore production will go up considerably with the completion by 1981-82 of the development of the Rajpura-Dariba Mines in Rajasthan at an estimated cost of Rs. 442.5 million. Steps are also being taken to adopt the latest technology to increase substantially zinc recovery at the Debari zinc smelter in Udaipur, which had hitherto been operating on the conventional electrolytic route without any residue treatment facilities. In the Draft Plan for 1978-83, a provision of Rs. 56 million has been made for this project.

The significance of the steps taken is seen in the context of the wide-ranging applications of these two metals in industries—from galvanising, dry cell batteries, die casting, manufacture of rubber, pigments, ceramics to pharmaceuticals and fertilisers in the case of zinc and in lead, its use in storage batteries, plumbing pipes, cable sheathing, additives for petrol, anti-friction alloys and radiation shield. Consumption of lead and zinc increased by about 45 percent in the developing countries between 1970 and 1977 at a rate faster than in the developed world where it grew by about 13 percent in the same period. In respect of ore, India has demonstrated reserves in terms of metal at around 2.2 million tonnes of lead and 4.7 million tonnes of zinc.

Significant Growth of Small Industries

Small scale industries, producing over 5,000 items of mass consumption or ancillary products, registered a significant growth during 1974-78. The units in this sector increased from 216,000 to 319,000 and the gross output of units registered with the Small Indust-

ries Development Organisation (SIDO) increased from Rs. 49,000 million to Rs. 85,000 million over the four-year period.

The small scale sector contributes about 40 percent to the total industrial production in the country. Its share of export of non-traditional products is also around 40 percent.

In the new strategy of industrial development outlined by Mr. George Fernandes, Union Minister of Industry, in the Industrial Policy Resolution of December 1977, the emphasis is on effective promotion of cottage and small industries widely dispersed in rural areas and small towns. The objectives are to generate larger employment opportunities, to revitalise and develop the existing tradtional and other small-scale industries and to promote intensive development of new viable small industries.

The small scale sector has tremendous employment potential and its growth during 1974-78 has resulted in sizeable expansion of jobs, both for the skilled and unskilled workers. Employment is estimated to have increased from 2.16 million persons to 3.19 million persons over the period.

During the Five Year Plan 1978-84 the estimated additional employment, including self-employment, is expected to be of the order of 2.85 million persons between 1977-78 and 1982-83 and 3.44 million persons by 1983-84. In the additional employment generated, 42 percent are likely to be skilled workers, 38 percent unskilled workers and 20 percent supervisory persons, including self-employed.

The encouraging growth of this sector is largely due to the intensive extension services provided by SIDO through its network of Small Scale Industries Service Institutes and technical institutions as well as State Directorates of Industries. On an average, technical assistance has been provided to 150,000 units and on-the-spot guidance to more than 80,000 units. Guidance on economic, managerial and general matters has been provided to about 235,000 units. Besides, jobs of about 45,000 units have been executed in the workshops and regional testing centres of Service Institutes and about 14,000 drawings and blueprints supplied to entrepreneurs.

New development programmes undertaken in this sector include the setting up of four regional testing centres, four tool rooms, products and processes development centres for glass and ceramics, 11 new branch institutes, 11 trade centres, 16 sub-contracting exchanges etc. In addition, SIDO has also initiated a programme of modernisation of 49 selected industries.

During the Plan period, the growth rate of production in SIDO industries is expected to be of the order of 8.2 percent compound per annum as against the projected annual growth rate of 6.8 percent for the entire manufacturing sector.

A pivotal role in the growth of small scale sector has been assigned to the District Industries Centres (DIC). The programme ensures all facilities, services and support at pre-investment, investment and post-investment stages to the small and village entrepreneurs under one single roof. So far 346 districts, of the total of 399, have been covered under this programme.

Reports received from 164 DICs indicate that for 83 DICs action plans have been prepared. In the reporting, DICs 52,000 entrepreneurs have been identified, 3,766 new units established and credit to the tune of Rs. 470 million provided. The programme is expected to generate about one million jobs by 1980.

Improved Performance of DGTD Industries

An overall growth rate of 10.3 percent has been recorded by 109 industries, borne on the rolls of the Directorate General of Technical Development (DGTD), in the Union Ministry of Industry during April, 1979 as compared to the corresponding month last year. These industries have a total weightage of 39.7 in the general index of industrial production.

The DGTD plays a pivotal role in the development of organised sector of engineering, chemical and related industries which together account for a weightage of 49.5 percent in the national index of industrial production. Performance of these industries, as a whole, is monitored along with Management Information System in the DGTD.

Of the 109 industries whose performance has been monitored, 68 industries, accounting for a total weightage of 20.47, achieved a growth of over 10 percent. These include commercial vehicles (20.9), tractors (34.2), food manufacturing (13.3) metal products (12.2), electrical apparatus and appliances (16.2), machinery other than electricals (15.78) and miscellaneous manufacturing (17.97).

Twenty industries with the combined weightage of 6.78 reported growth of less than 10 percent. The industries comprise power-driven pumps (9.8), phosphatic fertiliser (8.6), soda ash (4.2), high-density polyethelyne (9.1) and streptomycin (9.4).

Twenty-one industries with the combined weightage of 8.35, however, recorded a decline. In this group, some of the important industries are paper and paper board (1.8), cement

(6.2), industrial explosives (6.0), railway wagons (12.5) and calcium carbide (10.8). The shortfall in production has been mainly due to infrastructural constraints like power shortage in some States, non-availability of coal at the units and transportation problems, and industrial relations.

Several measures have been initiated at the highest level for removal of the infrastructural bottlenecks. As a result of the actions taken, the trend of production in the month of May reveals that there is a pick-up in some sectors. Illustrative of this trend is cement in which production of 1.596 million tonnes was achieved as against 1.457 million tonnes in April, 1979 and 1.59 million tonnes in May, 1978.

The production of commercial vehicles in May, 1979 (5,013 vehicles) has shown a distinct imporvement compared to production in April, 1979 (4,658 vehicles) and May, 1978 (4,052 vehicles). Some sectors, however, continue to show a declining trend. A careful watch is being maintained on their performance and corrective steps, wherever possible, are initiated.

Additional Power at Satpura

Additional 200,000 kilowatts of power have been added to the installed capacity of Madhya Pradesh State with the commissioning of a thermal set built by Bharat Heavy Electricals Limited (BHEL) at Satpura power station.

This 200 MW turbo generator set was formally dedicated to the nation by the Prime Minister, Mr. Morarji Desai, recently at Satpura.

The total installed capacity of Satpura Thermal Power Station is 512.5 MW including 200 MW from the BHEL built set. All the five earlier sets of 62.5 MW each were imported.

The major beneficairies from additional power from Satpura include Bokaro Steel Plant, NEPA Newsprint Mills, cement plants at Satna, Jammul, Raipur, Kymore and Mandher, cottage industries covering artsilk, cotton textiles, refractories and fire bricks.

The total installed capacity of Madhya Pradesh is 1341 MW including 560 MW being generated by BHEL equipment. In the next five years additional 2170 MW of generating capacity is proposed to be added in the State. The entire generating equipment for the additional power including that for Super Thermal Power Station at Korba will be supplied by BHEL.

Speaking on the occasion the Union Energy Minister, Mr. P. Ramachandran, called for optimal utilisation of power generating capacity. He said while there was an installed capacity of 29,000 MW in the country, it was not being utilised optimally and there was scope for improvement in the running of the power stations.

The Minister said that the standard of utilisation and availability of the plants in the country was in no way inferior to those available in other countries. The important factor which had to be borne in mind was that the pattern of demand was so variable and fluctuating that even today there was so much of surplus power available in the night and the country was unable to use it properly. The Minister advised that all efforts should be directed to flatten the demand curb so as not only to get better utilisation but also reduce the number of forced outages.

Talking about the availability of power in Madhya Pradesh, the Minister said with the dedication of the 200 MW unit at Satpura, the total installed capacity in Madhya Pradesh would be of the order of over 1300 MW. The new unit would help to improve power position considerably though not to the level one would have expected. He said that in order to bridge the gap between demand and supply in the State, a number of projects totalling 1,277 MW had been taken in hand. The Minister expressed the hope that the Madhya Pradesh State Electricity Board would see to it that the projects were completed on time. He said that the construction of projects in many States had lagged far behind and there had been over-running of cost. The Minister appealed to the State Electricity Board for keeping up to the schedule of construction of projects so as to make power available within the prescribed time frame.

The Minister, however, commended the performance of Madhya Pradesh Electricity Board in running their thermal stations. He said that the Board had to its credit excellent performance of running their thermal stations and their operation and maintenance had been of very high order. The availability and utilisation of power stations in Madhya Pradesh had been much above the national average.

Talking about the need for proper training, the Minister said that the sophisticated equipment in the power stations required very delicate and careful handling by our engineers with proper training in maintenance and operation of the machines. The Minister said that the Government of India had recently set up a Power Training Engineers Society where engineers were given training in different factors of operation and maintenance of power plants. Apart from this, the engineers were also being sent abroad for receiving training in different aspects of the power system. He said that in the coming years, the need for giving proper training would be all the more in view of the complex nature of the

super thermal power stations which were being set up in the country.

The Minister also mentioned about the development programme and said that the country had before it a large power development programme and by the end of the current Plan, installed capacity would reach a figure of nearly 45,000 MW. This was indeed a great challenge to engineers and workers who, the Minister said, would bend all their energies to help achieving the target.

National Dairy Development Project

The Government of India has sanctioned a national dairy development project called Operation Flood II on the basis of experience gained in implementation of Operation Flood I.

The major contribution of Operation Flood II Project will be to benefit 10 million farm families through improved cash income. The programme involves an outlay of Rs. 4,850 million and is expected to be completed by 1985. It will tentatively cover 155 milkshed districts selected on the basis of potential for milk. The project will link these milksheds to 148 cities having a population of more than 100,000 for the marketing of milk. The essence of the project will be an increase in milk production in the selected areas through improved feed and health cover for the milch animals, an increase in the size of milk herd through measures aimed at genetic improvement, an assured remunerative and stable price for milk to the producers, facilities for organised collection, transportation and processing of milk and supply of good quality milk to consumers in 148 cities. In a broad sense, it will encompass a national milch herd of about 15 million. The total milk production in the Sixth Plan Period is expected to increase from about 27 million tonnes per annum to 35 million tonnes per annum.

Operation Flood I was launched on July 1, 1970 with a view to obtaining a commanding share in the milk marketing for the four metropolitan city dairies and for development of the milkshed areas in the 10 States and Union Territory of Delhi supplying milk to the metropolitan dairies. Operation Flood I has now entered its last phase.

Against the targetted capacity of 2.75 million litres per day for the metropolitan city dairies, installed capacity has come up to 2.9 million litres per day till January, 1979. Throughput has increased from pre-project level of 0.9 million litres to 1.943 million litres per day and 17 Feeder Balancing Dairies have come up and 3 more are under implementation. As against the targetted capacity of 1.48 million litres per day for rural milk processing, the actual capacity established is 2.445 million litres per day with an average level of utilisation of about 77 percent. A fleet of 30 broad gauge rail milk tankers and 10 metre gauge tankers has been commissioned. Cattle-feed plants have been set up in Patna, Sabarkantha, Banaskantha, Jalgaon, Baroda and Ludhiana. At Varansasi and Darjeeling the plants are in the final stage of commissioning and work is in progress at Erode, Meerut and Murshidabad.

The average daily throughput of all milk plants during 1978-79 was 5.3 million litres. The production of other milk products in this year is estimated to have been 23,670 tonnes of milk powder, 35,860 tonnes of infant milk food; 19,900 tonnes of malted milk food; 5,650 tonnes of condensed milk; 1,060 tonnes of cheese, 20,230 tonnes of ghee and 10,760 tonnes of butter.

Apart from 186 plants comprising 92 liquid milk plants, 28 milk product factories and 66 pilot/rural dairy centres which were in actual operation in the public/cooperative sector, 55 other plants, including expansion of some of the existing ones were in different stages of implementation.

Survey of Unorganised Sectors

The National Sample Survey Organisation (NSSO) has started on July 1, 1979, a year-long countrywide survey of the unorganised sectors of trade, transport, hotels and restaurants, storage and warehousing services. This survey—the 34th round by the NSSO—will yield vital data for planning and preparation of national accounts.

A three-day conference of field officers of the NSSO and participants from Central and State Governments representing user organisations, was inaugurated at New Delhi, recently. The conference discussed the detailed schedule, instructions and operational aspects of the survey. Prof. V. M. Dandekar, Director, Gokhale Institute of Economics and Politics, Pune, who is the Chairman of the Governing Council of NSSO, presided over the conference.

This is expected to be "a training for the trainers" of the field staff of NSSO and the State statistical personnel.

The National Sample Survey was started in 1950 to collect by statistical sampling comprehesive socio-economic data relating to different sectors of the economy. The first survey covered 1833 sample villages.

During 1977, the Central Statistical Organisation and the State Governments conducted a countrywide Economic Census. As a follow-up, the 33rd round of National Sample Survey covered unorganised manufacturing sectors. The 34th round covered remaining unorga-

niased non-agricultrual sectors. This is a joint effort of the NSSO and the Bureaux of Statistics in the States.

Licensing of Roller Flour Mills Relaxed

For some time past, Government have been considering the question of laying down policy guidelines for selective relaxation of the ban imposed on expansion of the roller flour mill industry.

With a view to permitting smaller units to set up capacity in roller flour milling, it has been decided that entrepreneurs desiring to instal roller flour milling plants of a capacity of 30 tonnes per day and below need not obtain industrial licences under the provisions of the Industries (Development and Regulation) Act, 1951, if they fulfil conditions relating to exemptions from industrial licensing as laid down in the notification dated February 16, 1973, issued by the Union Ministry of Industry (Department of Industrial Development), as modified from time to time.

For this purpose, the entry relating to roller flour mills appearing in Schedule IV to this Ministry's notoification of February 16, 1973 is being amended to read as "roller flour mills with a capacity of over 30 tonnes per day". Accordingly, only roller flour mills with a capacity exceeding 30 tonnes per day would be subject to special regulations under the Industries (Development and Regulation) Act, 1951.

Credit Relaxations for Urban Co-operative Banks

In the light of the recommendations made by the Committee on Urban Co-operative Banks and on a review of the operations of the Reserve Bank of India's (RBI) directive (May 25, 1977) regulating secured and unsecured advances of primary co-operative banks, the Reserve Bank has effected the following relaxations in the directive with effect from July 1, 1979 :

The limit of total advances to a single party by banks with total time and demand liabilities of Rs. 20 million or more has been raised from Rs. 1 million to Rs. 1.5 million or 5 percent of total time and demand liabilities, whichever is lower.

The limit of unsecured advances to a single party for purposes like trade, commerce, cottage and small-scale industries, housing and education has been enhanced from Rs. 10,000 to Rs. 15,000 or five percent of the total of time and demand liabilities, whichever is lower.

The facility of adding 75 percent of paid-up capital and reserves to the total of time and demand liabilities, which was available only to newly organised primary co-operative banks for the initial period of three years, has been extended to all primary co-operative banks.

Science and Technology

Satellite Communication Experiments Successful

After nearly two years of successful tests and evaluation in satellite communication, the operational phase of the Satellite Telecommunication Experiments Project (STEP) came to a close on June 30, 1979.

The experiments were in special techniques for television and sound programme transmissions, light traffic route and inter-city heavy traffic route telephonic transmissions and the methods for integration of satellite circuits into automatic trunk network when the domestic satellite INSAT becomes operational in 1981.

Jointly undertaken by the Indian Posts and Telegraphs (P & T) Department and the Indian Space Research Organisation (ISRO), the project used the Franco-German Satellite 'Symphonie'.

Under the experimental project, three earth stations were established at Ahmedabad, Delhi and Madras. Two transportable terminals—one on a truck and the other in a jeep—were also used.

The most remarkable deployment of the truck-mounted terminal was at Lahore from where live coverage of the India-Pakistan Cricket Tests was relayed to TV viewers in many parts of the country.

The jeep-mounted equipment—which can be air-lifted, was first used after the 1977 cyclone in Andhra Pradesh. Located at Vijayawada, it established communication with Delhi and was used by All India Radio in news despatches on relief work.

The jeep-mounted terminal was also used for 'audio tele-conferences' involving scientists sitting at different places.

The equipment for multiple sound programme along with TV was successful,y used for relay of Davis Cup Tennis Matches from Madras to New Delhi.

Additional experiments were conducted on clock synchronisation in collaboration with the National Physcial Laboratory, New Delhi and on computer communication and coded transmission in collaboration with the Tata Institute of Fundamental Research, Bombay and the Indian Institute of Technology, Kharagpur respectively. The experiments so far conducted have yielded valuable information for building up competence in the development, ins-

tallation and operations of ground station equipment for satellite communication.

The major part of the hardware for the ground stations was developed and fabricated by the Space Application Centre of ISRO, the Telecommunication Research Centre of the P&T and the Indian Telephone Industries.

Hand and Clothing Monitor Developed by ECIL

Electronics Corporation of India Limited (ECIL), a Government of India enterprise, has been manufacturing and supplying various health physics instruments, required for survey and contamination monitoring of radiation, to medical establishments, Bhabha Atomic Research Centre (BARC) and nuclear power stations, throughout the country. The equipment is continuously updated to meet the latest standards set by National and International Committees. PM 4600 is an updated IC version of ECIL's old transistorized Hand and Clothing Monitor type PM 183. It is designed to detect the presence of radioactive contamination on the hands and clothing of personnel working in areas where active Beta Gamma contamination is possible. The need for such a monitoring arises from the fact that the contaminated persons are to be decontaminated from the point of view of their own safety as well as preventing them from inadvertent spreading of the contamination.

The range of operation is 0 to 999 counts per second for both the hands, and clothing range is 0 to 1,000 counts per minute. Four Geiger Muller tubes, type 1-1022, are employed per hand for Beta Gamma detection. They are shielded by 1.3 cm (approx) lead on all sides except on the front where hands are inserted. The hand counts and time in seconds are displayed on seven segment LED displays. PM 4600 detects the level of radioactive contaimination on the hands and initiates as alarm, with indication of the affected position, if the level of contamination detected is higher than a preset warning level. The preset count can be varied in steps of 1 count from 1 to 999 and preset time can be varied from 1 to 99 seconds in steps of 1 seconds. Lamp indication informs the user whether his left of right hand needs decontamination or whether both hands are free from contamination.

As the probe for clothes can be used independently from the monitor for hands, the PM 4600 can be used for monitoring the level of contamination on clothes and also on other objects. The range of operation for clothes probe which uses a GM tube 1-1020 is 0 to 999 counts per minute displayed on a linear scaled meter. Aural indication for clothing probe by 7.5 cm. (approx) speaker informs the user of the intensity of contamination. The compact PM 4600 has yet another feature-high voltage variation to accommodate various GM tubes and variation of high voltage for individual GM tubes.

New Standards Published by ISI

Indian Standards Institution '(ISI) has published an Indian Standard Specification for Electric Instantaneous Water Heaters IS:8978-1978, which applies to instantaneous water heaters up to 1.5 litre capacity for heating water to a temperature below its boiling point. This standard covers the general and safety requirements for electric instantaneous water heaters, with a view to ensure personal safety against electric shock, safety against the effect of excessive temperature and fire.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

ISI has also published an Indian Standard Code of Practice for the Installation of Electric Bells and Call System IS:8884-1978, which covers installation of electric bells and buzzers covered in IS:2268-1966-specification for electric call bells and buzzers for indoor use (revised) and indicator call system (including time bells), in private dwellings, official buildings, hotels, hospitals, educational installations and factories.

This code is intended to serve as a guide and provides information on the installation of electric bells and indicator call system (including time bells) in various types of buildings with a view to ensuring reliable operation, personal safety against electric shock and safety against the effects of excessive temperature and fire. Bells and buzzers that are to be used outdoor, such as on-board ships, involves special practices with regard to their installation, methods of protection against severe atmospheric conditions, etc. and guidelines on these do not form part of this code.

Another standard published by ISI is an Indian Standard Specification for Single Walled Banking Ovens IS:8985-1978, which lays down the performance, general and safety requirements and methods of test for single walled baking ovens for baking and grilling designed for household use. These ovens are to be designed for connection to supplies at voltage not exceeding 250 V ac single-phase 50 Hz and/or dc with power input up to 20 kW.

The standard provides for Certification

Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Remote Sensing for Resource Management

Detection of coconut blight in Kerala, accurate assessment of the acreage under rice in Andhra, surveying for prediction of cotton yield, exploration for minerals—these are but a few task accomplished in recent years via 'remote sensing'.

'Remote sensing' simply stated, means observation of phenomena and renewable resources like minerals with the help of cameras or sophisticated sensors, which are mounted on flying vehicles. The sensors are placed onboard aircrafts, balloons rockets and satellites and data is collected in the form of films and magnetic tapes. Such data are subjected to conventional analysis or fed to computers to obtain thematic information and indices (such as area under floods) of relevance to resource management.

The development of space technology has provided India a powerful tool to obtain vital information relating to its vast resources. Application of remote sensing now forms major programme of Indian Space Research Organisation (ISRO).

THE LANDSAT programme of the USA served to focus attention on the important role that satellite and space technology could play in contributing to resources management information system. ISRO was involved in the LANDSAT programme even prior to the launching of the satellite. However, the first experiment in remote sensing was carried out in 1970 with the assistance from NASA, using a helicopter as a platform, for the early detection of coconut blight disease in Kerala plantations. This served to establish not only the feasibility but also to provide a specific forum for meaningful interaction with users of remotely sensed data. This was followed by a number of smaller surveys, the most notable of them being the one over Kedagaon district, near Pune, in 1972. ISRO also entered the sensor development field and developed an infrared scanner in collaboration with the Centre National d'Etudes Spatiales (CNES), the French Space Agency.

In 1974, Agricultrual Resources Inventory and Survey Experiment (ARISE) was carried out over the districts of Anatapur in Andhra Pradesh and Patiala in Punjab in collaboration with the Indian Council of Agricultural Research (ICAR). ARISE indicated that the existing methods of data collection in agriculture were not only time-consuming but also under estimating the areas under crops like rice.

Soon after ARISE, a survey was carried out over the Panch Mahals District in Gujarat in collaboration with the State government and the Physical Research Laboratory. This was for the planned development of the entire district with special reference to forestry and geology resources. The preliminary results tend to substantiate ARISE finding of under-estimation of the acreage under rice and other crops.

In addition to these semi-operational surveys, a number of small surveys have been carried out in collaboration with a large number of user agencies. These include surveys for the prediction of cotton yeild, oil spill studies in collaboration with ONGC, sugar-cane disease studies and the onset of disease on citrus trees.

Satellite for Earth Observations (SEO) is a major element in ISRO's current contribtuion to remote sensing. This satellite will give India a total system capability which includes : satellite fabrication, testing and qualification : payload fabrication, testing and qualification, payload—satellite integration; data reception and data handling; data analysis and utilisation. SEO will be launched by the end of this year with a Soviet launch vehicle. Most of today's activities in remote sensing are structured around SEO.

ISRO has developed a five-channel multi-spectral scanner that can be used for aircraft surveys. This has channels in the visible band and one channel in the thermal. The scanner is the first instrument of its kind designed, developed and built indigenously.

The infrared scanner which was developed earlier with French collaboration has been improved. This is in regular use for carrying out the various ISRO surveys and for the climatology experiment to be conducted by the Department of Science and Technology.

In the area of satellite payloads, two television cameras in the spectral range of 0.54 to 0.99 and 0.75 to 0.85 microns are under development. This will be one of the two major payloads on India's second satellite (SEO). The other major payload on this satellite will be three microwave radiometers, two in 19.35 GHz and one in 2 .235 GHz frequencies. These radiometers will help in the measurement of sea state, water vapour and liquid water content in the atmosphere. SEO has applications in geology, forestry, hydrology, ceanograph and meteorology.

Facilities for receiving data from SEO have been set up in SHAR and Ahmedabad. A terminal to receive data from the National Oceanographic and

Atmospheric Administration (NOAA) of the US, meterbrological satellites has been set up.

Facilities have been established for manual photo interpretation. In addition, an interactive computer-based analysis syatem (both hardware and software) has been set up at the Space. Applications Centre (SAC). The necessary algorithms for computer assisted analysis are available and will be used for SEO.

The LANDSAT data available with ISRO have been widely distributed. Analyses—both computer-aided and visual have been done at SAC for a number of applications which include agriculture, forestry, hydrology and geology. For the collection of necessary ground truth (ncecssary for interpretation), a mobile laboratory fully instrumented has been established.

A key element in this new technology is the use of remotely sensed data in the day-today applications of actual management of various resources. Currently, utilisation aspects include LANDSAT imagery, SEO imagery and aircraft multispectral imagery utilisations. Activity in this area involves collaboration with users on joint projects (ARISE and Panch Mahals are typical), supply of imagery to users by ISRO (these include LANDSAT data and, when in orbit, SEO data), and involvement of the users in the definition of future remote sensing elements.

Report of Dagli Committee on Contracts and Subsidies

The Vadilal Dagli Committee has observed that both controls and subsidies help promote a number of policy objectives and that in the context of present unequal distribution of wealth and income together with imperfections in market systems in India, controls and subsidies are necessary.

The Committee, which was constituted by the Government of India, submitted its report on May 15, 1979, to the Deputy Prime Minister and Finance Minister, Mr. Charan Singh. The Committee has concluded that many war-time controls, introduced to meet an emergency situation, were gradually absorbed into a system devised to meet the need of long-term planning. There has been a multiplicity of controls to meet various objectives and there are instances where controls have remained long after the need for them had been over.

The Committee recommends following objectives for controls in the country:

(a) that scarce national resources get directed to priority sectors as per national plan and public policy ;

(b) that the basic consumption needs of the people are met, in particular, the needs of the weaker section of the society, are provided at prices within their reach ;

(c) that disparities in income and wealth are reduced and undesirable concentration of power prevented;

(d) that employment and income for large masses of people are protected by promoting growth of the decentralised sector; and

(e) that self-reliance is pursued by promoting technological capability, import substitution and exports in tune with the resource endowment of the country.

The Committee recommends that controls and regulations should have a limited period of validity and these should be reviewed periodically, say once every five years. The control system should be simple and the points of control should be as few as possible.

All subsidies should similarly have a validity of no more than three years and before any subsisidy extended beyond its stipulated life, a review of its costs and benefits should be placed before Parliament by concerned Departments. The traget group likely to benefit from any subsidy should be clearly identified and the fact should be adequately publicised to ensure that subsidies do reach the target group. The Committee also recommends that subsidies should be overt, so that costs and benefits thereof can be identified.

According to the Committee, price controls by themselves are of no value unless accompanied by an effective distribution system and control of Government over an adequate share of the supply of the controlled item for public distribution. Moreover, control over prices should not be such as to discourage production of controlled items. The Committee recommends that control over prices should be limited to articles which go into the consumption of common man, or to intermediate goods which are either basic or necessary for manufacture of consumption goods required by common man, or are essential inputs for the decentralised sector affecting large employment.

In regard to industrial licensing, the Committee finds that types of integration between industrial licensing and overall planning which had been achieved during the Third Plan has not been followed lately and guidelines for industries issued by the Union Ministry of Industry do not have the same organic link between plan and licensing policy. In consequence, the industrial licensing system has not ensured development of industries according to plan priorities, has failed to prevent growth of capacity in non-essential industries, has not been effective in securing proper regional dispersal of industries, and has not succeeded in containing monopolies and concentration of plant power. The

Committee, therefore, recommends that a list of totally banned industries should be announced from time to time. Among other industries, some should be reserved only for the village and cottage sector and some others opened for small-scale industries with an investment limited at Rs. 1 million. The Committee wants an open list of industries for which no licence should be required. The Committee recommends further that a penalty should be prescribed for both under-utilisation of capacity as well as pre-emption of capacity without full utilisation of the capacity already licensed.

In the field of mining, the Committee recommends that no area should be kept reserved for exploitation by the public sector for more than five years and any such area so reserved should be explored and exploitation commenced within a period of five years failing which the area should be deserved.

The Committee recommends that import and export policy should have a validity of three years to permit available adjustments in production structures. It recommends that all cash assistance rates should be reviewed and such assistance limited to a refund of the direct tax element in the process of production of an export item.

As regards exchange controls, the Committee feels that the present policy of managing exchanges by having a realistic exchange rate should continue. It recommends simplification of rules regarding foreign travel.

According to the Committee, a major problem of textile industry arises from fluctuations in output and prices of raw cotton and neither control on ceiling nor support price of cotton has worked successfully. Although Cotton Corporation of India was set up with a view to stabilising prices of cotton through effective intervention in cotton market, it has never been provided the necessary fund with which to achieve the above objectives. The Committee, therefore, recommends that Cotton Corporation of India should be freed from bureaucratic control, given necessary funds and general guideline and authorised to buy 30 percent of the cotton crop and also build up a buffer stock. The Committee further recommends that control on weaving capacity of mill sector should continue; price stamping of mill cloth withdrawn except on janata cloth and reservation of spare production by handloom should be enlarged.

The Committee recommends that price of coal should be determined by an independent authority with a view to discouraging its imprudent use.

The tight administrative control over steel prices should be relaxed. There should be no licencing control in respect of cement expansion and a special allowance of at least Rs. 20 per tonne of cement should be allowed to producers. To the extent controls are considered necessary on cement prices, distribution, etc. the same may be exercised under Essential Commodities Act instead of Industrial Development and Regulation Act.

The Committee recommends amendment of Gold Control and total prohibition on manufacture of gold oraments above 18 carets purity. To meet demand for 18 caret gold, the Committee wants Government to import gold. It also suggests revival of gold bonds with suitable modifications.

The Committee feels that there is a need for a separate list of reserved items for decentralised sector, especially for artisans and cottage industry type workers. This list will include all dhoties and sarees with border, all carpet weaving, shawls, blankets, etc. The Committee further recommends that there should be a separate list for Government and public sector purchases exclusively from cottage and village industries.

In regard to credit control, the Committee recommends steps to make available adequate credit speedily to small producers at reasonable commercial rates of interest. It recommends that 20 percent of the additional credit should be deployed to decentralised sector.

The Committee feels that controls, particularly on price without an adequate machinery for distribution, leakages in distribution system, rent control, etc., are the main sources of black money. To check the expansion of balck money, the Committee recommends that to the extent possible other alternative policies like buffer stock operations and fiscal policy should be used. There is need for a small list for restricted items involving individual discretion.

The Committee recommends that at the national level, all controls and subsidies should be monitored in Planning Commission by a monitoring unit to be set up, so that required adjustments could be made from time to time. Similar monitoring of controls should be undertaken by State Planning Boards. The Committee further recommends that monitoring of prices and distribution control should be made easier and should be made more efficient by organising citizen councils in each area and also by involving organisations like chambers of commerce and industry for undertaking voluntary regulation of the conduct of their members.

Corringendum

Please read the heading on column 2 at page 4 of the issue dated July 7, 1979 as "IITF'79—Special Import and Custom Arrangements".

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair), Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February, 23-March 2, 1980
Leipzig Spring Fair, Leipzig (GDR)	March, 9-16, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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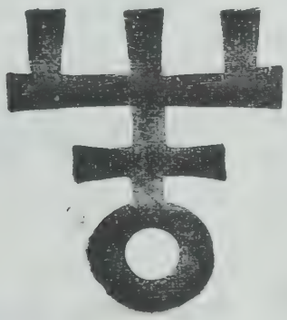

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Indian participants in IITF' 79 are requested to continue and reopen their displays for this fair. No extra licence fee will be charged

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economic and commercial news

News Highlights

Indo-Libyan Protocol

At a meeting of the Indo-Libyan Joint Commission concluded in New Delhi recently, an agreement on avoidance of double taxation has been finalised. The agreement will serve to promote greater participation of Indian firms in large value projects in Libya. The Joint Commission noted with appreciation the good work done by Indian firms in the construction of irrigation projects. A team of Indian experts would visit Libya soon for investigating the possibilities of implementing and management of agri-cultural projects. (Page 1)

Heavy Industry Export Orders Up

The value of export orders in hand with heavy industry public sector units as on May 31, 1979, amounted to Rs. 9,220 million, registering an increase of about 16 percent over the export orders in hand during the same month last year. The orders with the two units, namely, Engineering Projects (India) Limited (63 percent) and Bharat Heavy Electricals Limited (29 percent) account for 92 percent of the total export orders.

(Contd. on page 2)

Export Performance and Potential

Wide Ranging Cooperation Between India and Libya

An agreement on avoidance of double taxation has been finalised at a meeting of the Indo-Libyan Joint Commission which concluded in New Delhi recently. The agreement provides mutual taxation benefits to both countries and in so far as India is concerned it provides for taxation concessions for Indian enterprises in Libya, Indian personnel in Libya and Indian air and shipping enterprises operating in Libya.

The agreement will serve to promote greater participation of Indian firms in large value projects in Libya.

The protocol for the session was signed by the Co-Chairmen of the Joint Commission, the erstwhile Union Minister of Industry and Mr. Juma El-Arbash, Minister of Electricity of the Socialist People's Libyan Arab Jamahiriya.

The Joint Commission noted with appreciation the good work done by Indian firms in the construction of irrigation projects. Towards enlarging the scope of cooperation in the agriculture and irrigation sector, a team of Indian experts would visit Libya soon for investigating the possibilities of implementation and management of agricultural projects specially in the Kurfa and Sarir areas.

Under the protocol, Indian firms would be negotiating for the construction of two electricity centres of the value of about Rs. 1,000 million and they would also participate in tenders for construction of two labour training centres.

Indigenous Satellite Launch Vehicles

The third Indian satellite, Rohini Satellite (RS-I) is scheduled for launch by the end of this year. The 40 Kg. satellite will be launched from Sriharikota by the indigenously developed Satellite Launch Vehicle (SLV-3). The time bound programme of development of Indian Launch Vehicles also includes the design, fabrication and launch for SLV-Variant launch vehicle capable of placing a 500-600 Kg. payload into 500-600 Kg sun-synchronous orbit in the time-frame of 1985-86.

International Terminal at Delhi Airport

A proposal for the construction of Phase-I of an International Passenger and Cargo Terminal at Delhi Airport has been approved by the Public Investment Board. The project is likely to cost Rs. 420 million including departmental charges. The project is expected to serve 3.3 million passengers annually and will be able to handle 70,000 tonnes of cargo. The new complex is likely to be commissioned in 1984-85.

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According to the protocol, Indian Railway Construction Company Limited (IRCON) and Rail India Technical and Economic Services (RITES) would be participating in several railway projects in the Jamhiriya. IRCON would also be negotiating with the Libyan side for manufacture of railway sleepers.

Five hundred housing units at Orban in Libya are being constructed by National Building Construction Corporation (NBCC) at a cost of about Rs. 420 million. It was agreed that the balance of the housing units numbering about 3,500 in the Orban and Nina townships would be progressively awarded to National Building Construction Corporation and Hindustan Steel Construction Limited (HSCL). Sites for construction of two hotels each with 100-beds capacity have been selected in Libya and NBCC would be negotiating for their construction at an estimated value of about Rs. 355 million.

Contracts have been awarded to NBCC and HSCL for construction of schools for a value of Rs. 500 million. Because of the scope of construction activities in this sector, it has been agreed that Indian companies would enter into further agreements for similar projects in other parts of Libya.

The management contract for the El-HOMS-II cement factory has been awarded to an Indian firm and is expected to be completed by the end of next month.

Possibilities of Indian participation in telecommunication projects including telecommunication training centres were also identified.

The Indian Roads Construction Corporation (IRCC) have been invited to present a revised offer for the prestigious Azedabia Tobruk road. Detailed negotiations will also be held by Indian firms for several other road construction projects.

The offer of Indian firms for construction of a cement factory and a spinning mill in Libya are under evaluation.

The Libyan side has agreed to furnish necessary particulars so that Indian firms can set up Training Projects required for the steel industry in Libya.

Discussions were also held on enlarging the scope of trade between the two countries. Items identified related to export of rice and tea from India and possibilities for import of chemical and petrochemical products from Libya.

The Co-Chairmen of the Joint Commission reviewed the progress of implementation of decisions taken at the first meeting of the Joint Commission held in Tripoli in December, 1978 and the Protocol signed between Staff Major Abdul Salaam Jalloud and Mr. Morarji Desai, Prime Minister of India on July 19, 1978. The renovation work of the old power station at Tripoli has been completed by Bharat Heavy Electricals Limited (BHEL). Appreciation was also expressed at the progress of BHEL in the construction of the Tripoli West Power Station.

The Joint Electrical Construction Company of Libya and India has begun functioning in the Jamahiriya. Negotiations are in progress for the implementation of the project of the Zuara Power Station in Libya.

Greece's Interest in Indian Garments

A five member Trade Development Authority (TDA) sponsored Indian team, which recently visited Greece, has secured trial orders worth Rs. 225,000 for garments, fabrics and and knitwear. The team which returned after a month-long tour also received a large number of enquiries.

It is part of a contact promotion programme undertaken by the Trade Development Authority. The object of the programme is to explore new markets which do not have quota restrictions and to provide exposure to the Indian merchandise.

The team included four industry representatives and was led by a senior TDA Officer. Substantial business on long-term basis is expected following the successful execution of these trial orders.

Indian industry representatives and Greek firms concluded five agency areements for the distribution of Indian garments, fabrics and handicrafts. Greek buyers were invited for trade negotiations to a mini exhibition of Indian garments and knitwear held in a leading hotel in Athens.

Possibilities for organising an Indian Promotion Campaign in Athens early next year were explored. Negotiations between the Trade Development Authority and a leading Greek Department Store are under way for such a campaign. Indian garments, knitwear, home furnishings, made-ups, leather goods and garments, jewellery, handicrafts and gift items, incense sticks, carpets and druggets, sports goods, basketry items, gloves and package tea will be on display and sale during the promotion campaign.

India to Participate in International Automobile Fair

India will participate in the International Automobile Fair scheduled to be held at Frankfurt in West Germany in September, 1979. This will be country's third participation which is being organised by the Trade Development Authority (TDA).

Indian firms had participated in this Fair in 1975 and in 1977. In 1977, they had secured orders worth over Rs. 20 million. The Fair is visited by major European buyers who plan their imports and place spot orders. The partcipation in the specialised fairs has been very helpful in establishing contacts with foreign buyers and importers.

During the last 20 years, Indian automobile ancillary industry has grown rapidly. The production has gone up to Rs. 2,210 million in 1974-75 as compared to Rs. 20 million in 1955-56. Many new products, hitherto imported, are now being manufactured indigenously. Exports too have shown an upward trend. In 1975, India exported auto ancillaries worth over Rs. 210 million as compared to Rs. 70 million in 1971. Over 80 countries buy their requirements from India. West Germany is the largets importer of Indian auto ancillaries and accessories accounting for 30 percent of the country's total exports.

Indo-Australian Apple Project

The Governments of India and Australia signed in New Delhi recently a memorandum of understanding concerning an Indo-Australian apple grading and storage project at Sopore in Jammu and Kashmir State.

The memorandum of understanding was signed by Mr. A.G. Asrani, Joint Secretary, Department of Economic Affairs, Union Ministry of Finance and Mr. J.S. Holloway, Acting High Commissioner of Australia on behalf of their respective Governments.

The project is aimed at enhancing orderly marketing of the apple crop in the State, stimulate and expand consumption and ensure continuing and fair economic return to producers.

These objectives will be achieved by :

(a) Establishment and demonstration of simplified and practical grading, sizing and packaging standards along lines similar to those used in international trade in apples ;

(b) Construction and demonstration of the use of packhouse-coldstore complex in a major apple-producing district of Jammu and Kashmir to serve as a prototype;

(c) Advice to, and training of, State Government horticulture staff in the setting up of apple grading, sizing and packaging standards, their implementation, and subsequent means of enforcement through an inspection service ;

(d) Short-term training in Australia for policy-making and technical staff on apple grading, sizing, presentation and marketing; and

(e) Conducting a programme to ensure thorough spraying and control of apple scab in upto 81 acres of orchards supplying fruit to the packhouse-coldstore complex.

The total commitments of the Government of India and Government of Australia for this project will amount to Rs. 3 million and $A290,000 (equivalent to Rs. 2.6 million) respectively, spread over a period of two years.

Bright Prospects for Indian Handlooms in USA

Handloom goods have traditionally enjoyed a good market in the United States, according to the Consulate General of India, New York. Recognizing the special importance that the handloom sector occupies in India's economy, the United States and India have agreed upon special provisions for the access of the handloom goods to the US market. Handloom fabrics and made-up items are completely quota

free. In addition an agreed list of items called "India items" that are uniquely and historically traditional, Indian products and/or are made or otherwise fabricated by hand in cottages which are the units of the cottage industry are also outside the quota limits. Handloom apparel, however, are not completely quota free though India has been given greater flexibility and margin in exporting handloom apparel to USA than mill-made/powerloom apparel.

The volume of handloom fabrics exports to USA is rather low. In the nine months period, April to December 1977, for example, exports were only about Rs. 85 million. Generally speaking , about 35 to 40 percent of India's annual exports of cotton fabrics to USA is accounted for by handloom fabrics. Handloom fabrics are used mainly for furnishing purposes such as upholstery fabrics, wall hanging covers for panelling etc. While there is a growing awareness of and demand for handloom upholstery fabrics, the potential for growth is rather limited.

Handloom made-ups exported to USA consist mainly of bar mops, bathroom and kitchen towels, dish cloths, bedspreads and bedcovers. A few individual importers are trying to introduce non-traditional handloom items like napkins, table cloths etc. Bar mops, dish cloths and kitchen towels are the items of greatest potential in this field. The reason is that all these items are bought solely on the besis of price, quality and finish being secondary considerations.

But the other handloom made-ups have certain disadvantages which make them uncompetitive vis-a-vis the mill-made products. These include lack of bulk production and poor finishing. Moreover, handloom articles in general are not permanent press or wrinkle free and cannot be easily washed in washing machines without damaging the article, which makes them less popular with the average US consumer. As far as towels are concerned, even mill-made towels, whose main market in USA is institutional trade, also have to compete with the excellent quality of linen manufactured domestically and imported from South America and Pakistan. Handloom bedspreads and bed-covers which have attracted considerable attention from the American consumer market in recent years are still somewhat of a novelty. Apart from the inherent dis-advantages of handloom products mentioned above, the other factor which makes mass market of handloom bedspreads difficult is that, with handloom fabrics, it is virtually impossible to have colour and design coordination of all furnishing in the room, which many Americans prefer.

Handloom apparel exports form a major share of total handloom exports to USA. Handlooms have done rather well in USA, during the last year or two. There continues to be good demand for handloom apparel in USA, but this is perhaps more because India has been deliberately trying to push handloom exports rather than because of any conscious consumer preference in this country for handloom garments. There will always be a steady market of consumers who would prefer to buy handloom garments because of their novelty, but generally speaking, the American buyer is more interested in the design, cut and colour of the garments than in the fact whether the garment is handloomed or otherwise. The latest quota distribution policy has forced more and more importers to go in for handlooms on a larger scale. But it is too early to say whether this policy will influence the consumer demand in USA in favour of handlooms and away from mill-made/powerloom apparel.

Cotton handloom apparel are the largest group of handloom apperel exports to USA, because the cotton handloom industry is the most developed sector in India. Handloom fabrics with their traditional designs and colours have a unique advantage over mill-made items in that they possess an inherent flexibility which enable the designers and importers to experiment with new variations incorporating different colours, patterns, designs and textures at little or no additional cost compared to mill-made apparel. On the other hand, handloom apparel cannot be easily mass produced which is a big disadvantage in the US consumer market where a lot of sales take place through departmental chain stores whose volume of buying is very large.

Handloom fabric is most popular in the casual junior sportswear market where the moderate price structure of the garments, gives it a competitive edge in this particular market segment, On the other hand, it is much more difficult to sell handloom agarments in the higher-priced contemporary fashion look market since people are paying more for garments where the over-all appearance of the garment becomes rather important. The additional processing that handloom fabric requires in order to acquire a finish similar to mill-made products makes handloom apparel on the whole more expensive and less competitive.

Several importers prefer to deal exclusively with handloom fabrics. Th y deal in mill-made products only when a specific fabric like poplin, voile or bosky is not available from the handloom sector. Gauze is still the handloom cotton with most demand, with several other types such as cambric becoming increasingly popular. Most importers, however, deal on a 50:50 basis between handloom and mill-made for the summer season with the percentage for

handloom dropping to as low as 25 percent or over 10 percent for the fall and spring seasons when woollen and man-made fibre fabric becomes more popular. By far the most popular item of handloom apparel in USA is women's blouses followed by dresses, skirts, shirts and trousers.

Handloom rayon is a far newer concept in the fashion world and has not as yet achieved unanimous acceptability. However, more and more leading fashion designers and importers have started experimenting with it and currently it is very much in vogue with American fashion designers. It seems that although handloom rayon has a wider variety of designs and patterns than mill-made rayons, for reasons mentioned above, the upkeep of the garment is rather high since they cannot be washed but have to be drycleaned. Another problem that is faced with regard to the handloom rayon is that unless the garments are properly processed, the consistency of the fabrics is lost and the garment will drop at the seams when hung on a hanger. This creates additional problems as the stitching has to be undone and the apparel repatterned, involving unavoidable delays and extra expenditure.

Handloom silk garments have not had a large market penetraton in USA mainly because of their high price. Like other handloom apparel products, handloom silks are lightweight and unstable requiring lining of plastic or foam which is not desirable for obvious reasons. With the tailored look in vogue in 1979 such unstable fabrics cannot be used unless they are suitably adapted. But because silk garments are quota free they are attracting a lot of attention and an increasing number of people in the high fashion line are going in for imports of silk garments from India with delicate embriodery and knitting and other ornamentation. This naturally makes it more expensive and, therefore, the market is somewhat limited.

Handloom wool production in India is far too inadequate to meet the demand, as much of it is in the shawls and blankets. While the inconsistency caused by loose weaving does not create problems in manufacturing blankets and shawls, garments require a tightly twisted yarn of worsted and gaberdines. Woollen fabrics require thorough processing and washing in order to be accepted in the US consumer market.

The recent trend of increasing handloom textile exports to USA from India has been encouraging. Most people have so far concentrated on 100 percent cotton as rayon handloom textiles which, as pointed out above, suffer from various disadvantages. The use of blended fibres for handloom textiles should enhance their appeal in the US market. Some people are in fact already experimenting with blends, partly as a way to get round the quota restrictions.

India's Trade with Asia and the Pacific

India's exports to the East and South East Asia and the Pacific region were of the order of Rs. 7,530 million in 1975-76, Rs. 9,370 million in 1976-77 and Rs. 9,400 million in 1977-78. India's imports from these countries amounted to Rs. 5,310 million in 1975-76, Rs. 6,140 million in 1976-77 and Rs. 8,560 million in 1977-78. Some of the more important goods commodities exported to the region were iron ore, jute manufactures, marine products, pearls, precious and semi-precious stones, leather and leather goods, textile fabrics, sugar and machinery. The rise in imports was mainly on account of purchases of large quantities of edible oil from Malaysia and the increase in import of capital equipment and machinery from Japan. This is stated in the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for 1978-79.

At present, India has Trade Agreements with Burma, the Republic of Korea, Philippines, Thailand, Japan, Australia, Socialist Republic of Vietnam, [illegible] Republic, Indonesia and Democreatic People's Republic of Korea. The instruments of ratification have not been exchanged in the case of the Trade Agreement with the Philippines. The Trade Agreement with Australia, the Republic of Korea and the Democratic People's Republic of Korea provide for joint annual review of trade.

Efforts to forge close cooperation with the Governments in the region in economic and commercial fields were stepped up during 1978-79. Apart from the visits to three ASEAN countries by the Union Commerce Minister, an Inter-Ministerial delegation visited Japan for the first Inter-Governmental Consultations in several years.

The third meeting of the Indo-Australia Joint Trade Committee was held at Canberra in November, 1978. A wide range of problems and issues relating to bilateral trade were discussed and potential areas for growth of trade were identified.

An Indian delegation participated in the first meeting of the Intra-regional Commonwealth Consultative Group on Trade held at Canberra in July, 1978. This meeting discussed various problems facing the regional commonwealth countries in increasing their exports and explored possibilities of increasing trade among themselves.

The report say that since the spurt in oil prices in 1973 , India is having an adverse balance of trade with West Asia and North African region. [illegible]

exports to this region were, however, growing quite steadily upto 1976-77. During 1977-78, there was a decline in exports to this region. As against India's total exports of Rs. 7,255.2 million to this region during 1976-77, exports during 1977-78 to this region amounted to Rs. 7,105.4 million. At the same time imports from these countries went up from Rs. 8,486.7 million during 1976-77 to Rs. 8,720.3 million in 1977-78.

A new Trade Agreement between India and the Syrian Arab Republic was signed in New Delhi on April 20, 1978. when the Syrian President paid a State visit to this country. The agreement was in replacement of the one which was signed in October, 1979.

A Trade Agreement between India and the Socialist People's Libyan Arab Jamahiriya was signed in New Delhi on July 19, 1969.

The first meeting of the Indo-Libyan Joint Commission took place in Tripoli in December 1978.

The Fifth Session of the Indo-Iraq Joint Commission was held in Baghdad in December 1978. Under the Joint Commission, trade talks were held between the two countries and the Trade plan for the year 1979 was formulated. This Trade Plan provides for export of goods worth US $ 153.60 million from India to Iraq. Similarly, it provides for export of goods worth US $ 54 million from Iraq to India.

National Film Development Corporation Activated

The Government has decided to activate the National Film Development Corporation (NFDC) and to amalgamate the Film Finance Corporation (FFC) and the Indian Motion Pictures Expo.t Corporation (IMPEC) with it.

The objects of the National Film Development Corporation will be to promote quality films and encourage research and development in film equipment and raw stock. It will also handle the import and export of feature films; import and distribution of raw material and equipment used by the film industry; and distribution and exhibition of films through the existing network in the country and also by promoting a programme of construction of a chain of low-cost theatres in conjunction with State film corporations where feasible.

The import and export of feature films was hitherto handled by the FFC and IMPEC.

The authorised capital of NFDC will be raised from Rs. 30 million to Rs. 40 million. The registered office of the Corporation will be shifted from Delhi to Bombay.

The National Film Development Corporation was set up as a wholly Government owned company in 1975 in pursuance of the recommendations of a study team set up by the Union Ministry of Information and Broadcasting. The study team had identified acute shortage of theatres and untramelled commercialisation of the film medium as the two core problems restricting the healthy growth of Indian film industry. It has noted that in spite of the Film Finance Corporation, which had been set up mainly to finance artistic films of merit, the effect on the industry as a whole was very limited. The meagre resources at FFC's command did not permit financing of an adequate number of films which could set the pattern in the industry. The team had suggested that a comprehansive film corporation should be set up which should be largely self-financing and could generate sufficient resources within itself.

The charter of activities prescribed for the National Film Development Corporation includes the import, export, distribution and exhibition of feature films and import and distribution of raw stock. It envisages that Indian Motion Pictures Export Corporation would be wound up and the Film Finance Corporation would become a subsidjary of NFDC. But the NFDC never really took off and the IMPEC and FFC continued to be independent corporations. The arrangement now decided upon by the Government fulfils the objective laid down in NFDC's charter.

Indo-FRG Cooperation

India will get a commodity loan of 312.5 million (DM 70 million) from the Federal Republic of Germany for the year 1979-80.

An agreement to this effect was signed at New Delhi recently. Dr. Manmohan Singh, Secretary, Union Ministry of Finance, Department of Economic Affairs and Dr. Dirk Oncken, Ambassador of the Federal Republic of Germany signed on behalf of their respective Governments.

The loan will be used for commodity imports like spare parts and accessoires as also other semi-manufactures, fertilisers etc. This loan carries an interest of 0.75 percent with a maturity of 50 years including a grace period of 10 years. The loan has a grant element of 83 percent.

This agreement for the commodity loan tranche for 1979-80, has been signed in advance of the inter-Governmental negotiations between the two countries, scheduled to take place in October, 1979. This will ensure speedier utilisation of funds under this tranche.

Industrial Growth and Diversification

Record Steel Production at BSL

Bokaro Steel Plant (BSL) produced

117,094 tonnes of ingot steel last month, achieving 102 percent of the target fixed by the Steel Authority of India Limited (SAIL). The daily production rate of ingot steel was also 6.1 percent higher than in May 1979. The total saleable steel produced in June was 76,083 tonnes.

In addition, the plant produced 141,645 tonnes of blast furnace grade coke, 110,733 tonnes of sinter, 116,973 tonnes of hot metal, 80,931 tonnes of slabs, 81,227 tonnes of hot rolled coils, 31,480 tonnes of hot rolled plates and sheets. It also produced 16,658 tonnes of cold rolled coils, 5,722 tonnes of pig iron, 1,942 tonnes of ammonium sulphate, 5,500 tonnes of crude tar and 2,523 tonnes of sulphuric acid during the month.

The plant despatched 7,116 tonnes of pig iron for home sales, besides 5,346 tonnes steel ingot, 27,591 tonnes of hot rolled coils, 23,021 tonnes of hot rolled plates, 8,291 tonnes of hot rolled sheets, 3,865 tonnes of cold rolled sheets and 9,048 tonnes of cold rolled coils in June, 1979. The total saleable steel despatched during the month was a record 72,604 tonnes.

Higher Production by Heavy Industry Units

Fifteen units under the Department of Heavy Industry have achieved a total production of Rs. 10,580.1 million during 1978-79. The turnover represents 90 percent of the target and 23 percent higher production than the figure last year.

The target of production set for 1979-80 is Rs. 12,700 million.

The production achievement during 1978-79 is almost evenly shared by the units. Some of the units which achieved production near or above the target are the Bharat Heavy Electricals Limited-97 percent, the Hindustan Machine Tools Limited-105 percent; the Triveni Structurals Limited — 95 percent and the Bharat Pumps and Compressors Limited-100 percent.

The Engineering Projects (India) Limited, a consultancy and contracting organisation has achieved a turnover of Rs. 1188.7 million during the year. This is 89 percent of the target set for the year and 59 percent higher than the turnover last year.

The Heavy Engineering Corporation Limited (HEC), registered some improvement. During 1978-79 the turnover of HEC is valued at Rs. 706.9 million, nearly 65 percent of the target set for the year and an increase of 68 percent over the production figure last year.

Other undertakings which registered significant growth are the Jessop and Company whose turnover represented 70 percent of the target, the Mining and Allied Machinery Corporation, whose production jumped from Rs. 94.6 million in 1977-78 to Rs. 263.7 million in 1978-79. The turnover during 1978-79 represented 78 percent of the target fixed for the year. The Burn-Standard which gave a turnover of Rs. 278.3 million or 84 percent of the target fixed for the year.

The Bharat Heavy Plates and Vessels Limited, made headway by giving a turnover of the value of Rs. 222.4 million, or 74 percent of the target. Other companies which distinctly forged ahead in production are the Richardon and Cruddas, the Tungabhadra Steel Products, the Bharat Wagon and Engineering Limited and the Bharat Brakes and Valves Limited.

The total orders pending with the public sector undertakings at the end of March 1979 stood at Rs. 23,608.9 million as against Rs. 19,840.3 million at the end of March last year.

Taking into account the technological base developed in these units for meeting the requirements of project equipment, the lead time required to manufacture the equipment, and the production performance achieved over the last few years, the present order position may not appear impressive. Constant efforts are now being made by the units to improve their production and productivity as also to contain price escalation to the extent possible so that there is greater credibility and confidence of the customers in their capability to meet the demands.

Besides, a number of units have diversified production to secure maximum utilization of their capacity. Marketing and sales efforts are also being intensfied by these units to secure export contracts. As a result of these efforts, the order book position has shown distinct improvement and is expected to improve further.

New Industrial Licences Issued

Thirty-one industrial licences and 45 letters of intent were issued by the Union Ministry of Industry during the month of May, 1979. While eight licences were revoked, five were surrendered and one cancelled under the provisions of the Industries (Development and Regulation) Act, 1951.

The items for the manufacture of which licences were issued during the month included cast iron and alloy castings, steel ingots and billets, video magnetic tapes, power cables, mopeds, oxygen gas, sulphuric acid, erythromycin shoddy yarn and Portland cement.

Letters of intent were issued, among others, for phosphor bronze strip, portable x-ray machines, motor cont

centres, motor-cycles, synthetic diamonds, single superphosphate, nitrogen gas, industrial explosives, sulphuric acid, writing and printing paper, soya meals and Portland cement.

Duty on Wool Restructured

The Government of India has decided to restructure the rates of customs and central excise duties leviable on wool and woollen fabrics. By this restructuring, the import duty on raw wool and wool tops is being reduced from the existing 75 percent *ad valorem* to 45 percent *ad valorem*. The import duty on woollen rags and woollen wastes is being reduced from 25 percent *ad valorem* to 5 percent *ad valorem*.

Simultaneously, in the case of indigenous products, excise duty on wool tops and carded gilled slivers is being raised from Rs. 5 per kilogram to Rs. 7.50 per kilogram.

On the processed woollen fabrics produced by the decentralised sector and processed by independent processors, the existing rates of basic duties of 2 percent and 2.5 percent *ad valorem* are being raised to 4 percent and 5 percent *ad valorem* respectively. The rate of basic excise duty on processed woollen fabrics produced by the decentralised sector and processed by composite mills, is being increased from 4 percent to 8 percent *ad valorem*. Further, the basic excise duty on woollen fabrics manufactured by composite mills, is being increased from 6 percent to 10 percent *ad valorem*.

There is no change in the rate of special excise duty or the additional excise duty leviable on wool tops or woollen fabrics.

Three notifications have been issued by the Government of India on July 4, 1979 to give effect to the above changes.

Tractors Against Foreign Exchange

The amount of foreign exchange required for getting tractors has been revised with effect from July 1, 1979. The revised foreign exchange requirements are : (i) foreign exchange equivalent of at least Rs. 55,000 for a tractor upto 40 HP; and (ii) foreign exchange equivalent of at least Rs. 70,000, for a tractor above 40 HP.

Allotment of agricultural tractors is covered by the scheme of inward remittance of foreign exchange introduced in 1975. This scheme is applicable to Indian nationals bringing foreign exchange while returning to India from abroad and Indians when they receive foreign exchange from their relatives residing abroad.

The present procedure regarding foreign exchange in a "non-convertible" account to be opened with any scheduled bank in India dealing in foreign exchange, remains unchanged. The banks will forward the application to the Department of Heavy Industry for issue of release orders, as at present.

Central Act to Protect Small Units

A comprehensive Central law is proposed to be enacted for the protection of small scale units in the country. It may provide for compulsory registration of units and supply of raw material to them and such other subjects relating to small scale, village and cottage industries for which legistive support does not exist in the Industrial Development and Regulation Act or other Central Acts. The erstwhile Union Minister of Industry, who gave this information to the Parliamentary Consultative Committee attached to his Ministry, added that the concurrence of the States would be obtained for the proposed legislation.

In regard to the District Industries Centres (DICs), the Members were informed that all the 399 districts in the country would be covered by the programme in the next few weeks and one million jobs created by 1980. Manifestly, the programme had generated a lot of enthusiasm in the States. In the 194 DICs which had reported, 59,700 entrepreneurs has been identified and over 18,600 project profiles prepared to enable them to choose appropriate industrial opportunities. This had helped in setting up 49,600 units in the decentralised sector which had provided additional employment to about 147,000 persons.

Further, the Minister informed Members that, as a result of efforts made, credit assistance to small scale units from financial institutions so far had totalled Rs. 587.2 million. Cash subsidy of Rs. 90.4 million had been provided to 4,575 units and seed and margin money assistance given to 1,901 units.

The programme of assistance to sick units had also been initiated and nearly 600 units had benefited from this.

On an average, the Minister said, every DIC unit had identified 308 entrepreneurs, prepared 95 project profiles leading to the establishment of 235 new units and creating additional employment for 756 persons. The performance, he said, was encouraging but efforts needed to be intensified all around to fulfil the expectations of the people.

In the implementation of the programme, certain difficulties were being encountered. A number of States had not yet delegated necessary administrative powers to the DICs and the entrepreneurs continued to face difficulties in setting up a unit. Besides, there was need for more effective linkages with other decentralised sectors. In the manufacture and marketing of several items like soap and hand-made paper,

there could be profitable interaction between the DICs, the Khadi and Village Industries Commission and the National Small Industries Corporation.

Availalability of institutional finance, he said, was proving a major bottleneck in the successful implementation of the programme. The banks needed to develop a more constructive approach towards small scale units. The Reserve Bank of India had set up a Committee to look into the matter and its report could help in solving this problem.

The General Managers of the DICs met in New Delhi from July 3 to 5 1979. The Minister informed Members that the difficulties encountered so far in implementing the scheme, as also the specific points raised by them would be examined in depth by the General Managers and solutions found for the problems. The General Manager would also be asked to evolve a time-bound programme for the DICs.

The Minister further informed Members that the interest of the tribal and backward populations of the country had been given adequate attention in the development programmes. In addition to DICs, there were other programmes under implementation by the Khadi and Village Industries Commission and the All India Handicrafts Board for improving the lot of the tribes and the backward classes. The carpet weaving training centres being set up this year, for instance, would train 60,000 boys and girls by the end of this year and thus improve their employment opportunities. It was necessary, he said, that exploitation by private operators and middlemen in carpet trade was brought down to the absolute minimum, if not altogether eliminated.

The small scale sector had tremendous employment potential besides the jobs created, or likely to be created through the DIC programme. The khadi and village industry sector had created half a million jobs and employment opportunities were to be further expanded by next year.

Paper Control Order Promulgated

The Paper Control Order, 1979 has been promulgated by the Government of India to ensure that cultural varieties of papers are made available to the common man at fair prices. The Order provides that ex-factory prices of white printing paper and cream laid or wove paper shall be Rs. 3,000 and Rs. 3,785 per tonne respectively.

The Order also empowers Government to issue directions to the manufacturers as to the disposal of their stock or sale of these varieties of paper on such terms and conditions as may be specified.

White printing paper was already being supplied to the educational sector at a special rate of Rs. 2,750 per tonne under an informal arrangement with the paper industry. It has now been considered advisable to bring the price and distribution of white printing paper under statutory control. The price of Rs. 2,750 per tonne earlier agreed to by the paper industry in 1974, has been suitably revised taking into account the increase in the cost of inputs.

The cream wove or laid paper is the most commonly used variety of writing and printing paper in the civil market and the Government has acquired powers to direct its distribution. In arriving at these prices, Government has kept in view the need to ensure a reasonable return on investment.

It is proposed to utilise the agency of the Hindustan Paper Corporation (HPC) which has a number of retail outlets, to ensure the equitable distribution of this paper. The existing distribution channels may also be utilised partially to ensure widespread distribution of the paper to small consumers and the performance of the trade will be kept under review, while deciding whether the Hindustan Paper Corporation should gradually take over the distribution of the entire quantity of cream wove or laid paper.

The Paper Control Order would be complementary to the Paper (Regulation of Production) Order, 1978 which would ensure that a minimum quantity of white printing paper and cream wove or laid paper would be produced by the paper mills.

The Government is also separately arranging for import of writing and printing paper to augment the supplies available from domestic production.

Bulk consumers as well as publishers and printers would have to register their requirements with the Hindustan Paper Corporation so that suitable arrangements can be made for making the paper available to them.

The details of the procedure for allocation of indigenous cream wove or laid paper and imported paper will be announced shortly.

Container Facilities at Madras Port

Madras Port Trust is to enter into an agreement with M/s Compagnie Generale Maritime of France for developing container handling facilities at the port. The agreement is to be for two years.

The French company will bring their own container handling forklift truck of 25 tonnes capacity for handling the traffic at the port. The Port Trust would have the option to purchase the equipment during or after the termination of the agreement. Steps are also underway to provide the cargo handling equip-

ment such as cranes of different capacity and forklift trvuks at a cost of about Rs. 30 million.

During the current five year plan, Madras port is to get an allocation of about Rs. 290 million for its modernisation programme. The modernisation programme includes construction of an outer arm and a dry dock, acquisition of two dock tugs and a fire float and remodelling of the boat basin.

The construction of outer arm will cost Rs. 73 million out of which Rs. 20 million are to be spent during the current financial year. Its construction has become necessary to make the outer harbour an all weather one without restrictions. It will also provide necessary protection to the channel and the turning circle during the monsoon period.

Efforts are afoot to invite global tenders for construction of a dry dock as the existing slipway in the boat basin is not sufficient to cater to all the crafts and the bigger dredgers. Estimated to cost Rs. 63.1 million, it is likely to be completed in about three and a half years after the commencement of construction work.

For the remodelling of the boat basin and acquisition of a fire float, the Centre has already given its approval. Both the projects are likely to cost Rs. 52.5 million. The existing boat basin, which was constructed in 1920, is not sufficient to cater to the berthing of all the crafts. There are also no specific places for many crafts which moor during the onfloat repair.

Telecommunications Development in India

Although the development of telecommunications in the country over the last three decades has been very fast, it has been, by and large, city-oriented and the rural areas have been somewhat out of focus. With Government's persent policies giving emphasis to rural development, the expansion of telecommunication services in the rural areas and particularly the hilly, backward and remote areas has been given heavy weightage. This is meant to provide adequate support to and facility for the reoriented public policies. The principal objectives of the new policy of telecommunications are : rapid expansion of these services in the rural areas and new growth centres; provision of these services promptly and on demand in small towns, cities and satellite towns to metropolitan areas to help implementation of the policy to reduce the pressure on these areas; and to bring about a quick and effective improvement in these services in the metropolitan and other large cities.

Against the above background of catering to the needs of the rural backward, hilly and tribal areas where the needs can be met primarily by long distance public call offices and telegraph offices, a target of opening 4,000 public call offices and 4,600 telegraph offices during the two year period 1977-79 was fixed. Considerable advance has been made in this direction in 1977-78 itself in this direction. There are now in the country 15,555 telegraph offices and 7,136 long distance public call offices. In these total figures, the addition during the year 1977-78 itself is estimated to be 1,333 public call offices and 1,358 telegraph offices.

Over the years, there have been continuous technological changes and advancement in both the major fields of telecommunications, viz., switching and transmission. Continuous efforts are being made to adapt the new technology. The local telephone exchange systems have been progressively automatised and, at present, about 99 percent of the telephones in the country are automatic. Manual telephone exchanges are being progressively replaced by automatic exchanges consistent with the avilability of switching equipment.

With the economic and industrial development of the country, the demand for trunk telephone services has also been increasing rapidly. Till about the mid-fifties, all trunk telephone services were on manual basis. Then semi-automatic trunk operations involving single-link operator trunk dialling were introduced. This was followed by the introduction of the subscriber trunk dialling (STD) system for which a national switching and transmission plan was drawn up. This STD on a point-to-point basis with an access code of '9' was introduced in late fifties and is now in operation on more than one hundred routes. The national STD. with '0' access code using trunk automatic exchanges was introduced in the mid-sixties. There are now 15 trunk automatic exchanges in the country. The provision of subscriber trunk dialling network has been made possible with the introduction of coaxial cable and microwave radio relay systems in the national trunk network. These systems enable provision of large blocks of high grade and highly reliable circuits between the various trunk centres. There are now over 13,600 route kms of coaxial cable systems and 11,250 route kms of microwave systems operating in the country.

The telex service was introduced in the country in 1963 and became immediately popular. This service is of great importance to trade, commerce and industry as well as the administrations in the country who have greatly welcomed it. There are now in the country 18,750 working lines.

Side by side with the development of terrestrial network, projects have been taken up for the introduction of satellite communication in the country. For

meeting the communication needs of the jemote areas, quarter transponder is being rented from International Telecommunication Satellite) (Inteisat IV) to provide reliable telecommunication facilities to country's remote area locations by installation of two main earth stations -one each at Delhi and Madras and 5 smaller stations at Port Blair, Nicobar Island, Kavaratti in Lakshadweep Island, Leh and a suitable station in North Eastern Area. In the second phase, a domestic satellite (INSAT) providing for telecommunications, TV and meteorology has been planned with 35 earth stations.

The Fifth Plan for telecommunications terminated on March 31, 1978. A new plan for the period 1978-83 commenced from April 1, 1978. A draft telecommunication plan for this perid with a tentative financial allocation of Rs. 18, 480 million is under way. The strategy of the new Plan and its principal thrust have already been referred to earlier. The extension of the telecommunication facilities to the rural areas will be through the provision of 15,000 new long distance public call offices. The attempt will also be to provide telephone connections in rural areas, smaller towns and new growth centres practically on demand and to improve the trunk service from such places to a considerable extent including the extension of subscriber trunk dialling system to the secondary centres. In the metropolitan cities, the effort would be to meet the existing demands in full and provide additional exchange capacities and telephone connections to remove congestion and overloading in the existing networks both local and trunks. An addition of 1.15 million direct exchange connections, with possibilities of further increase if justified, to the existing network has been envisaged during the Plan period. Over 44.8 percent of the total proposed Telecommunications Plan outlay of Rs.18,480 million is proposed to be invested on the development of telecommunication network in the rural, tribal and semi-urban areas. A specific allocation of Rs. 375 million is being made for the provision of these services in the tribal areas.

Augmenting Rural Storage Capacity

The National Cooperative Development Corporation (NCDC) has recently launched a project for the construction of 6,871 godowns having storage capacity of 784,100 tonnes in Madhya Pradesh and Rajastan. The project, costing Rs. 439 million, will augment the storage capacity with the cooperatives and meet the rapidly increasing need of additional storage capacity in the rural areas. The European Economic Community (EEC) will provide an assistance of Rs. 157 million for implementation of the programme during the nxet 5 years.

In Madhya Pradesh, 3,350 godowns with a total capacity of 462,500 tonnes at the cost of Rs. 226.2 million and in Rajasthan 3,521 godowns with a capacity of 321,600 tonnes at the cost of Rs. 212.77 million, would be consructed. Out of the total envisaged storage capacity of 784,100 tonnes in the two states, 564,100 tonnes will be constructed by the Primary Agricultural Credit Societies, 117,000 tonnes by the Regional Cooperative Marketing Societies and 103,000 tonnes by the State Cooperative Marketing Federations. The capacity of the godowns would vary from 50 to 1000 tonnes.

These godowns in rural areas would function as growth centres for the cooperative movement and provide the infrastructure for a multi-functional activity at the level of a primary village society. From this centre, the small farmer will secure production credit, agricultural inputs and essential consumer goods. He would also effect here sale of his surplus agricultural produce. NCDC also provides assistance for construction of residence-cum-office of the manager of the society at village level as a part of the godown complex so that the society's services are available to the farming community even at odd hours. The increase in godown capacity in the rural areas would also provide temporary storage during procurement of agricultural surpluses in the rural areas. The village level socieities would serve as Mini Banks. NCDC would provide 50 percent of the cost of the construction of godowns as loan through the State Cooperative Bank to the cooperative societies. The State Government would provide to the societies 45 percent of the cost of the share capital. The balance of 5 percent cost will be met by the society from its own funds. The Corporation would also finance the State Governments with term loans to the extent of 25 percent of the project cost for participation in the share capital of the societies.

NCDC has already launched a similar project in Haryana, Uttar Pradesh and Orissa which will create 1093,000 tonnes of additional storage capacity. This project will cost Rs. 550 million and the World Bank is providing Rs. 240 million for its implementation.

The Corporation has, so far, assisted in the construction of over 33,000 godowns in the cooperative sector with a capacity of 4.5 million tonnes throughout the country.

Science and Technology

Research and Development at SAC

The Video and Image Processing

Engineering Division of Space Applications Centre, Ahmedabad (SAC) has developed considerable expertise in the design and development of low-cost video equipment and related hardware, according to the annual report of the Department of Space, Government of India, for the year 1978-79. A Digital Time Base Corrector (DTBC) and a major part of the equipment required for TV studios and closed circuit TV systems have been developed. The desings, together with those for 14 other related items, have already been transferred to industry. The performance of the DTBC has been demonstrated to the satisfaction of user organisations, such as Doordarshan. A Single Spectral Image Analyser, Scan Conversion Systems, Image Bandwidth compression techniques and other systems are under development.

Wide Band Scatterometer is a remote-sensing instrument. A laboratory model of 9.5 GHz Scatterometer has been developed at SAC. Using this, a preliminary study on paddy has been carried out, primarily to study the performance of this Scatterometer. Components for a 8-18 GHz Scatterometer have been ordered.

An Research and Development (R&D) programme was initiated to gain familiarity with Charge Coupled Devices (CCD) operation and to fabricate a camera for earth observation. In the initial phase, a single channel system is being fabricated for aircraft use. The basic advantages of CCD are its higher reliability, smaller weight and lower power requirement as compared to a multi-spectral scanner.

In the second phase of Kytoon development activity, development of materials for a directly inflatable balloon has been completed. This has been done in industry with guidance from SAC. Fabrication techniques have also been developed. A 65 cubic metre balloon was fabricated and flight tested in December 1978.

The report says that the geo-receiver developed earlier for point-position fixes, has now been made rugged so that operation and data reduction can be entrusted to staff with only limited training and maintenance and repair of the equipment can be carried out easily. A programme initiated for the fabrication of geo-receivers indigenously has yielded a proto-type model which is ready for field trials. A study has been made of converting the geo-receiver into a navigation receiver by the incorporation of a micro-processor into the system. The development of navigation software has been completed. Development of the software for translocation experiments and datum conversion is in the final stages.

A study has been made of possible tracking of the planned Indian Remote Sensing Satellite with a system of geo-receivers located in different parts of the country. Further studies are currently being carried out to optimise the systems and to develop the necessary software.

Under an arrangement with the Union Ministry of Information and Broadcasting and largely funded by that Ministry, Indian Space Research Organisation, (ISRO) has made available the special expertise and facilities built up at SAC, to enable the production of special rural Gujarati TV programmes for a daily 30-minute transmission from the Pij TV transmitter, about 50 km from Ahmedabad. These programmes are made by the Software Systems Group at SAC. Under the same arrangement, Doordarshan also uses the ISRO studio at Ahmedabad for the production of news and current affairs programmes. The Group has the responsibility for providing 'formative research' to Doordarshan TV production. This is done through research staff posted at Doordarshan studios in Delhi, Hyderabad and Cuttack, and at the ISRO Studio at Ahmedabad.

New Standards Published by ISI

Indian Standards Institution has published the first revision of an Indian Standard specification for flashers for direction indicators for automobiles (IS:4060-1978) which specifies requirements and methods of tests for hot wire type flashers with a 1 ad of two lamps for direction indicators of automobiles having a 6V, 12V and 24V direct current system.

This standard was first published in 1967. This revision has been undertaken to upgrade its contents and bring in line with international practice. The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

The Institution has also published the first revision of an Indian Standard specification for oil pressure switches for automobiles (IS:5439-1978) which covers the basic mechanical and electrical requirements and methods of test for 6, 12 and 24 V hydraulically operated oil pressure switches for use in automobiles. These switches shall operate as the pressure of oil decreases.

This standard was first published in 1969. This revision has been undertaken to upgrade requirements and bring in line with international practice. The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking

licences for putting ISI Mark on their products may contact the Institution.

The Institution has also published the first revision of an Indian Standard specification for synthetic detergent powders for household use, IS:4955-1978, which prescribes requirements and methods of sampling and test for synthetic anionic detergent powders for household use. Synthetic detergents produced in this country at present are mainly of the alkyl aryl type, such as sodium salt of alkyl benzene sulphonic acid. In India, the production of synthetic detergent powders started in the organized sector, but now a large number of small scale units are also producing them. A large tonnage is being produced by small scale sector by dry mixing of various ingredients; such powders have higher bulk density as compared to those produced by spray drying process.

This standard was first published in 1968 and covered primarily the spray dried powders. In this revision, two grades of the material are prescribed and these cover powders produced by organized sector as well as small scale sector. In this revision, the requirements for matter insoluble in alcohol and non-detergent organic matter have been dropped. The limit and the method of test for matter insoluble in water has been modified. For determination of active ingredient, a volumetric method in place of a gravimetric method has been included.

The standard provides for Certification Marking Scheme of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the ISI.

Another Standard published relates to Indian Standard methods of sampling chemicals and chemicals products : Part II Sampling equipment, Section 1 for Solids, IS:8883 (Part II/Sec 1) 1978 which deals with common equipment used in sampling of chemicals and chemical products in solid form. It also describes the procedures to be followed in using those equipment. It may be emphasized that the most careful work in the laboratory or quantitative results may be rendered useless if care is not taken when drawing the sample. The sample has to be truly representative of the lot, should not include material other than that to be sampled and should not change in composition before testing.

The Institution has also published the second revision of an Indian Standard specification for whiting for paint and putty (IS:63-1978) which prescribes requirements and methods of sampling and test for whiting for the manufacture of paint and putty. Whiting, a naturally occurring form of calcium carbonate, is used as an extender in paints and also in the manufacture of putty.

This standard was first published in 1950 and subsequently revised in 1964. In this second revision, two types of the material have been covered, namely, whiting for paint and whiting for putty. For whiting used as extender in paint industry three grades have been prescribed. Additional requirements for pH value, silica content, settling tendency and microscopic examination for whiting for paint and pH value for whiting for putty have been included.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Enlarging Irrigation Facilities for Economic Progress

Irrigation is a necessity for a tropical country like India which is primarily dependent upon agriculture for its economy. India has been able to tide over the era of food shortage and attain self - sufficiency in food production. Increased irrigation facilities have contributed, in no small measure, towards this achievement. While irrigation has been practised in India from times immemorial through diversion canals, tanks, reservoirs, dug-wells etc. the irrigation development has been planned in a scientific manner only after the country attained independence, says the annual report of the Department of Irrigation, Union Ministry of Agriculture and Irrigation for the year 1978-79.

The main thrust of the development policy for the Indian Five Year Plan, 1978-83 is towards agricultural and rural development for the achievement of full employment in the rural areas in a period of 10 years and removal of poverty. One of the major impediments to the full exploitation of the possibilities of agriculture has been the lack of assured and dependable water supply throughout the year. Even to this day, nearly 75 percent of the country's cropped area depend exclusively on rainfall, most of which is concentrated in a few months of the year. Even where the overall annual precipitation is high, the available moisture in winter and summer months is not adequate to support multiple cropping. The rainfall in a large part of the cropped area is so low and uncertain in its distribution that it does not permit adequate inputs to be provided. The broad strategy is, therefore, to develop irrigation as rapdily as possible and optimally utilise land and water resources.

India is endowed with substantial water resources. The total water resources of the country are assessed at 178 million hectare metres. However, on account of limitations of phgsiography, topography, geology, dependability, quality and the present state of technology, only a part of this will be utilisable. It has been assessed that about 67 million hectare metres of surface water and 26.5 million hectare metres of ground water can be tapped and utilised. The land area that can ultimately be irrigated has been assessed to be 113.1 million hectares as against possible gross cropped area of 210 million hectares on full development of irrigation potential. Thus, on present assessment, it may not be possible to provide irrigation facilities to the entire cultivated area in the country. The picture may, however, change through making fullest use of technological advances such as inter-basin transfers of water, large scale lifting of water from streams through pumping, modernisation of the existing irrigation system etc.

Prior to 1951, the total area irrigated in the country was 22.6 million hectare. -9.7 million hectares by major and medium projects and 12.9 million hectares by minor schemes, The irrigation potential increased to 52.2 million hectares at the end of the Fifth Plan in 1977-78, out of which 24.9 million hectares was by major and medium projects and 27.3 million hectares by minor schemes. The actual additional irrigation potential created during the 4 years of the Fifth Plan ending March 1978 was 8.1 million hectares.

At the end of 1978-79, the total irrigation potential created through major and medium irrigation projects would be 26.3 million hectares against the ultimate irrigation potential of 58.5 million hectares leaving a balance potential of 32.2 million hectares.

The table below gives details of expenditure incurred and potential created from major and medium irrigation programmes during the various plans.

(Rs.million/million hecatres)

Period	Expenditure	Additional Irrigation potential created
(1)	(2)	(3)
Pre-Plan	N.A.	9.67
1st Plan (1951-56)	3,760	2.49
2nd Plan (1956-61)	3,800	2.14
3rd Plan (1961-66)	5,760	2.23
Annual Plans (1966-69)	4,350	1.54
4th Plan (1969-74)	12,530	2.55
5th Plan (1974-78)	24,540	4.34
1978-79 (outlay)	10,330	1.35
Total	65,070	26.31

The Working Group constituted by the Department of Irrigation to formulate the programme for major and medium irrigation during the Medium Term Plan (1978-83) has assessed the requirement of funds at Rs. 82,000 million for a target of creation of additional irrigation potential of 8 million hectares. The Working Group has suggested a two-pronged strategy as under :

(i) Creation of additional irrigation potential by completing on-going and new projects; and

(ii) Effecting more efficient use of waters available in the existing irrigation systems.

For creation of additional potential, the Working Group has suggested devotion of maximum efforts on completion of ongoing schemes. Simultaneously, it has recommended taking up of new schemes within the national perspective of irrigation development, with high priority to schemes in drought-prone, backward and tribal areas. To have adequate pipeline of well investigated projects for execution, strengthening of investigation organisations and formulation of time-bound programmes for investigation of new schemes has been suggested. Referring to the considerable wastage of water in the existing systems, which causes problems of water logging and drainage congestion, paucity of water in tail-end areas of systems and gross under-utilisation of created irrigation potential on several projects, the Working Group has suggested improvement and modernisation of of these systems, including lining channels where necessary, in a phased manner in the next 15 years. The Working Group has also stressed the need for finalisation of detailed programmes for next five years; identification of new schemes including modernisation schemes; preparation of irrigation sub-plans for backward, tribal, hilly and other high priority areas, strengthening investigation organisations and improving the quality of investigation; preparation of detailed works programme, spelling out quarterly year-wise physical and financial targets and requirements of materials, labour and equipment for each major item of work; strengthening of construction organisations and streamlining administrative procedures, establishment of cost control cells and monitoring units; and preparation of annual operation programmes for major systems to optimise the benefits, evaluation of projects performance; and provision of adequate funds for operation and maintenance and the preparation of detailed plans for water resources development in each State.

During the year 1978-79, there was a substantial increase in the outlay for major and medium irrigation programmes from Rs. 9,650 million in 1977-78

(which included advance Plan assistance of Rs. 1,023.7 million) to Rs. 10,330 million with a target of creation of additional irrigation potential of 1.35 million hectares. The state of irrigation development and the programme for 1978-79 was discussed in the Department of Irrigation with the State representatives in July, 1978 and detailed projectwise programmes and targets were laid down. While there might be some short-fall in the actual expenditure, it is expected that the target of 1.35 million hectares of additional potential will be fulfilled, says the annual report.

The Central Monitoring Organisation, under Central Water Commission, has been strengthened with the creation of a third Unit from April 1978. The three Units headed by a Chief Engineer each who are assisted by one Director each, have been entrusted with the work of monitoring of 67 selected Irrigation Projects in 15 states of the country, during the year. These projects are expected to create about 80 percent of the irrigation potential targetted for the country, during 1978-79.

From the year under review, the monitoring pattern has been slightly modified and greater emphasis is now being placed on preparing the complete implementation programme for the project till its completion, instead of resorting to year-to-year planning as was being done earlier. Emphasis is also placed on pictorial depiction of complete implementation plan by schematic diagrams of canal systems and elevations of storage/diversion structures and major cross drainage works. The potential figures for a project are pegged down to the distributaries and minors, the progress of which is being watched by the Monitoring Units. The physical and financial progress against pre-set targets, is received from the projects every quarter and analysed in these Monitoring Units. □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February, 23 March 2, 1980.
Leipzing Spring Fair, Leipzig (GDR)	March, 9-16-1980,

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

News Highlights

WAPCOS Gets More Overseas Contracts

The State-owned Water and Power Development Consultancy Services (India) Limited (WAPCOS) has signed an agreement for continuing consultancy services worth Rs. 300 million to Water Research Centre in Baghdad. This is the fourth contract for consultancy services by WAPCOS in Iraq. WAPCOS, in association with a French firm of consultants, has also entered recently into a consultancy contract with the Ministry of Water and Power of Afghanistan for preparing the feasibility study of the Warsej Project. (Page 1)

Indian Finished Cotton for USSR

USSR is to buy finished cotton goods worth Rs. 190 million from India. A contract to this effect was signed in Bombay recently by the Director of a Soviet Import and Export firm and representatives of over ten Indian export houses.

India to Export Vintage Cars

India is to export vintage cars. The ban on their export since 1972 has been lifted. The Government of India has set up a

(Contd. on page 2)

Export Performance and Potential

More Overseas Contracts for WAPCOS

An agreement for continuing consultancy services worth Rs. 300 million to Water Research Centre in Baghdad was signed recently between the State-owned Water and Power Development Consultancy Services (India) Limited (WAPCOS) and the Government of Iraq. This is the fourth contract for consultancy services by WAPCOS in Iraq. The other projects in hand are—Amarah Irrigation and Drainage Project; Ground Water Exploration and Construction Supervision for Eastern Embankment.

WAPCOS, in association with the French firm of consultants, M/s Coyne et Bellier, has also entered recently into a consultancy contract with the Ministry of Water and Power of Afghanistan for preparing the feasibility study of the Warsej Project.

Warsej is envisaged as a multi-purpose project involving construction of a high arch dam for water storage and an electric power plant at the foot of the dam. The waters of the river Farkhar will be impounded so as to develop irrigated agriculture over an area of 27,000 hectares in the Taloqan Plain.

WAPCOS is already working as consultants to the Afghan Ministry of Water and Power on a number of multi-purpose, irrigation and power projects.

It may be mentioned that WAPCOS is already providing consultancy services to a number of projects in various other countries namely, Nigeria, Philippines, Burma, Sri Lanka And Bhutan. According to the annual report of the Department of Irrigation, Union Ministry of Agriculture and Irrigation for the year 1978-79, the company negotiated and signed many new contracts in different countries abroad during the period under review.

committee to advise the Chief Controller of Imports and Exports on individual proposals for export of such cars of pre-1940 models.

Imports Substitution Panel Set Up

The Union Ministry of Industry constituted recently a 13-member Imports Substitution Committee which will review the technical, economic and fiscal policies of the Government of India for the promotion of imports substitution. The Committee, comprising representations of Union Ministries, Planning Commission and industrialists, is headed by Mr. S.M. Agarwal, former Secretary of the Union Ministry of Communications.

Record Business by ECGC

The Export Credit and Guarantee Corporation (ECGC) made a record business of over Rs. 40,000 million last year and this figure was 27 percent higher than the business in 1977. ECGC is one of the important agencies of the Government to promote exports.

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One of the important contracts signed by WAPCOS during the year was for undertaking feasibility studies for supply of drinking water to six army barracks in Nigeria. The value of consultancy is US $ 800,000.

According to the report, WAPCOS will also provide in Afghanistan technical consultancy services involving design and construction supervision for the Khanabad Hydro Electric Project aided by the Asian Development Bank (ADB). The value of the consultancy is $ 424,230. WAPCOS also submitted, during the year, two proposals for providing consultancy services for (i) the ADB-aided Pul-e-Khumri Power Station-III and (ii) for consultancy for construction, supervision surveys and review of designs for the ADB-aided Gawargan Chardarrah Irrigation Project in Afghanistan. WAPCOS also signed contracts for providing technical consultancy services involving design and construction supervision for the Kirindi Oya Irrigation and Settlement Project in Sri Lanka at a cost of $ 383,000.

Besides, WAPCOS got a contract in Laos for reconnaissance survey for preparation of feasibility reports in respect of the lift irrigation schemes.

WAPCOS is a public sector undertaking set up in 1969 to provide consultancy services both within and outside the country in the sphere connected with the planning and development of irrigation, power, water supply and other multipurpose projects through its own staff and with the assistance of its principal constituents namely, Central Water Commission, Central Electricity Authority, Geological Survey of India, India Meteorological Department etc.

WAPCOS is registered with several international agencies like the Asian Development Bank, International Bank for Reconstruction and Development, United Nation's Development Programme, Food and Agriculture Organization, etc. The company has in-built flexibility to respond to diverse situations and can undertake investigations also as a part of services.

Orders for Hardware from US and Canada

Indian firms secured US and Canadian orders worth Rs. 8 million for bench vices, machine vices, clamps, door hinges, other hardware items etc., according to the Trade Development Authority (TDA). The orders were booked during the course of a Contact Promotion Programme undertaken by TDA for boosting their exports. Under this programme, a six-member team visited the US and Canada to study in detail the market requirements of all types of vices and hardware in these countries. The team, which included five industry representatives, was led by a senior TDA officer. The programme was aimed at identifying appropriate marketing channels, specific areas ad products in which there is considerable export potential in the US and Canada and providing live contacts to the Indian industry for marketing their products.

The team visited important industrial and trade centres in the US and Canada which included New York, Philadelphia, Detroit, Chicago, Houston, Los Angeles, San Francisco, Montreal and Toronto. More than 100 leading importers, wholesalers, industry and trade houses etc. were contacted by the team and shown Indian samples and product catalogues. A number of new trade and business contacts were established.

Samples of US and Canadian products have been brought by the team to study and evaluate their designs and undertake product adaptation in Indian units.

Higher Export Orders with Heavy Industry Units

Public sector units under the Department of Heavy Industry bagged export orders of the value of Rs. 46.4 million during the month of May, 1979. The major portion of these has gone to the Heavy Engineering Corporation Limited, Ranchi, which has been awarded a contract for balanacing and modernisation of a cement plant in Bangladesh at a cost of Rs. 33.9 million.

The value of export orders in hand with the public sector units as on May 31, 1979 amounts to Rs. 9,220 million about 16 percent more than the export orders in hand during the same month last year. Export orders in hand with Engineering Projects (India) Limited are valued at Rs. 5780 million (63 percent) and that with Bharat Heavy Electricals Limited Rs. 2670 million (29 percent). These two units together account for 92 percent of the total export orders in hand till May 31, 1979.

Export orders executed by the public sector units during the month of May, 1979 are valued at Rs. 160.2 million 43 percent more than in May, 1978. Cumulatively, the value of export orders executed during April-May, 1979 worked out to Rs. 316 million, as compared to Rs. 184.4 million in the corresponding period last year. This shows an increase by about 72 percent.

India and Cuba Sign Trade Agreement

India and Cuba signed a trade agreement in New Delhi recently. Besides developing and promoting economic and commercial relations between the two countries, the agreement provides for setting up of a Joint Indo-Cuba Committee which will periodically meet and examine flow of commercial exchanges between the two countries.

The agreement was reached following discussions between the visiting Cuban delegation headed by Dr. Carlos Rafel Rodriguez, Vice President of the Cuban Council of State and Indian officials. The Cuban side showed particular interest in buying from India sugar mill and textile machinery, railway wagons and coaches, joint collaboration of mass communication and industrial projects in third countries.

The exports to Cuba from India include tyres, chemicals and pharmaceuticals sugar mill machinery, copper wires, electric and telephone wires and transport equipment. The exports from Cuba to India are mainly nickel oxide, cement, steel, industrial and agricultural implements and rayon fibres.

Favourable Trade Balance

In the first two months of the new year, India has reversed the trend of adverse trade balance. According to the provisional figures for April and May 1979 the exports totalled Rs. 9,410 million as against the imports valued at Rs. 9,140 million.

Exports in May 1979 are placed provisionally at Rs. 3,940 million. This is 35 percent more as compared to May 1978 when the exports totaled Rs. 2,920 million. Taking exports in April and May 1979 together, the earnings were Rs. 9,410 million as against Rs. 7,250 million in April-May last year, registering an increase of 30 percent. It may be pointed out that the provisional export figures for May 1978 are Rs. 200 million more than even the revised figure of May 1978. Similarly, the provisional export figures for April and May 1979 are more by Rs. 810 million, i.e. almost 10 percent more than the revised earnings of Rs. 8,600 million in April-May 1978.

The imports in May 1979 were placed at Rs. 3,920 million, less by Rs. 40 million than the provisional figures in May 1978. In April-May the import bill this year is Rs. 9,140 million against Rs. 7,656 million during the corresponding period last year, showing an increase of almost 20 percent.

According to the latest provisional figures available for 1978-79, the adverse gap between imports and exports is of the order of Rs. 1,170 million. Imports were Rs. 67,520 million and exports Rs. 56,450 million.

Indian Technical Know-how for Trinidad and Tobago

A complete set of Indian Standards was presented, as a gift, to Trinidad and Tobago recently.

Presenting the Standards, Dr. A.K. Gupta, Director General Indian Standards Institution (ISI) highlighted India's keen desire to share her technical know-how and experience with developing countries in the interest of their economic and industrial development and promotion of international cooperation. While accepting the Standards, Mr. J.R.P. Dumas the High Commissioner of Trinidad and Tobago said that India was a leader among developing countries in the field of standardization and quality control as, indeed, she was a leader in many other areas. He warmly appreciated the gesture on the part of India to extend its valuable cooperation and assistance to Trinidad and Tobago in the field of standardization and hoped that the area of fruitful collaboration between the two countries would continue to be enlarged.

It may be of interest to know that the Institution has been presenting

complete sets of Indian Standards to developing countries of Asia, Africa and Latin America for use in the development of their own work of standardization. Besides Trinidad and Tobago, such sets of Indian Standards have been presented to Iran, Malaysia, Thailand, Iraq, Philippines, South Vietnam, Jordan, Indonesia, Ghana, Bangladesh, Ethiopia, Barbados, Cyprus, Mauritius, Ecuador, Afghanistan, Nepal, Tazania, Syria, Guyana and also to the Asian Development Bank.

Technical know-how and experience in the field of standaridization has been shared by India with different developing countries of the world. Over the years, a number of senior officers of ISI have been deputed to developing countries of Asia, Africa and Latin America under the Technical Assistance Programme of United Nations and others with the object of helping them in the work of standardization and quality control.

The Institution has also been helping the developing countries in training their technical personnel in the techniques and methodology of standardzation. A 15-week International Training Programme is organised every year for the overseas trainees to study principles of standradization and their application. 112 technical personnel from 31 counries have benefited from this programme.

Indrail Pass Tickets Fetch Sizeable Foreign Exchange

The Indian Railways earned about Rs. 7 million in foreign exchange through sale of 'Indrail Pass' tickets during 1978-79.

In all, about 20,000 foreign nationals and non-resident Indians travelled on 'Indrail Pass' tickets during the year. Of these, about 10,500 travelled in second class, 9,000 in First Class or A.C. Chair Car and the remaining about 500 in First Air-Conditioned Class.

The 'Indrail Pass' scheme was introduced on June 1, 1977 to promote foreign tourism in the country. These tickets are issued to only foreign nationals and non-resident Indians and are to be purchased against foreign exchange only.

The tickets are valid for 7, 15, 21, 30, 60 and 90 days during which period, the ticket holder can travel in any train and go to any station in the country any number of times he can.

Specific quotas have been set apart in selected important trains for allotment to foreign tourists. Tourist guides have been provided at major railway headquarters to render all possible assistance to holders of 'Indrail Pass' tickets in drawing up their itineraries and arranging rail reservations.

The holders of Indrail Pass tickets are not required to pay sleeper surcharge for night journey, supplementary charges for travel by super fast trains or reservation fee for reserved berths and seats. If they travel by Rajdhani Express, they are not required to pay even separate charge payable for meals.

India Wins World Packaging Awards

The Indian packaging industry gained recognition at World Star Award Contest held recently at Chicago. Out of the total of 11 awards, India bagged 2, both going to small units.

The award winners are (i) M/s. Adadhoot Industries, Bombay for their reinforced corrugated fibreboard material, the reinforcement being with cotton thread, and (ii) M/s. Quality Printing Press, Bombay, for their pack replacing the conventional leather box for radios with PVC lamination box.

The Indian entries won the awards against 47 contestants from all over the world. These entries were judged by an international jury with members from various countries. Prof. R. K. Chowdhary, Director, Indian Institute of Packaging, Bombay was on the panel of the jury.

These award winners happen to be the winners of the Indian Star Award and the Asia Star Award also.

Realising the importance of packaging, particularly in the export promotion, Small Industries Service Institute, Ludhiana, with the help of Indian Institute of Packaging, Bombay, organised a Programme on Export Packaging at Jullundur, recently, to acquaint the exporters/manufacturers with the latest techniques in packaging. The course covered various aspects of packaging like package-product relationship, packaging development to suit the export market, sea-worthy packaging, design of shipping containers, corrosion prevention in packging, recent developments in packaging i.e. shrink, skin and blister packaging etc.

NIDC's Export Performance

The National Industrial Development Corporation limited (NIDC) has also been active on export front during the year 1977-78. This Company rendered its services for planning power systems, industrial estates and paper plants abroad.

The Company has been rendering consultancy services in the field of electrical engineering. It has successfully acomplished various assignments pertaining to systems planning for capital cities and townships, establish-

ment of facilities for manufacture of electrical equipment and accessories, electrical installations for a wide range of industrial projects.

As regards major overseas assignment completed, NIDC was commissioned by the Tanzania Electric Supply Company Ltd. to undertake complete power system planning for the new capital city project of Tanzania at Dadoma. This assignment was received against stiff international competition and has been successfully executed.

Another assignment entrusted to the Company in this field relates to the preparation of feasibility study of an electrical complex for the manufacture of GLS lamps, electric meters, electric fans and motors, electrical appliances and accessories, transformers and switch-gears etc. by the National Development Corporation of Tanzania.

It is true that most of the developing countries are desirous of accelerated development of their economies for welfare of people. The constraints being inadequate availability of essential inputs in the form of finances, skilled manpower and infrastructural back-up. Large and sophisticated industries based on more advanced technologies do help to establish production facilities but do not create the base for indigenous development. Small-scale industries, on the other hand, offer definite advantages like lower investment, higher employment potential, shorter gestation period, simpler technologies easy to procure and operate to suit and develop skills and use of locally available raw materials. Happily, Indian economy has gone through such phased growth and is therefore in a better position to offer expertise to the developing countries. NIDC has been providing package of consultacny services for development of industrial estates wherein small industries could be located along with the necessary infrastructural facilities to produce a vareity of products and goods.

Further, the Company completed during the year several techno-economic studies for setting up industrial estates in Pemba (Tanzania), Ghana, Lesotho, Malawi, Mauritania, Upper Volta and Zambia.

NIDC has also been providing services to the pulp and paper industry abroad. During the year, studies for development of pulp and paper industry in Laos and Nepal, based on locally available raw materials, were completed.

As regards major overseas assignments in hand, it may be of interest to know that the Industrial Research Centre (IRC) of Libya, for whom the Company had prepared an industrial planning perspective for the period 1976-1980, has further engaged it for another prestigious assignment during the year relating to the formulation of regional industrial development plans for Misurata-Sirte and Fezzan-Al-Jufra regions in the Socialist Peoples' Libyan Arab Jamaharia. Significant progress has been made in the evolution of these plans. These studies will form a blue-print for the planned and accelerated industrial development of these regions and the strategies formulated in the plans would afford a self-generating economy over the years with perspective planning indications upto year 2000 A.D. The first draft report on the assignment has already been submitted to IRC.

Another overseas assignment on which notable progress has been made by the company, relates to the identification of industrial potential in the Royal Kingdom of Bhutan, based on the resource endowments. A draft report has been submitted, which would be finalised after discussions with the client.

The Company has been assisting Capital Development Authority (CDA) of Tanzania in building an entirely new capital of Tanzania at Dodoma and during the year, continued to provide consultancy services relating to the number of projects including infrastructural facilities for power supply system and an industrial estate in Dodoma.

Moreover, the Company has also been retained by M/s. BCEOM, a reputed French Consulting Engineering firm to provide construction supervision services for a 500 km road construction project in Saudi Arabia.

Further progress was made in continuing assignment relating to provision of turnkey consultancy services by the compnay to the Ministry of Planning and Development, Government of Zanzibar for the establishment of an industrial estate in Zanzibar. Out of eighteen industrial units, three more units were commissioned during the year, namely, bakelite electrical accessories unit, builders' hardware unit and hosiery unit. This makes a total of nine industrial units commissioned by the end of the year.

NIDC continues to provide consultacny services to the Commonwealth Fund for Technical Cooperation, Commonwealth Secretariat, London (CFTC) and undertook further studies relating to capacity utilization and product upgrading of various industrial units of National Development Corporation of Tanzania. A significant progress was made during the year and more than 75 percent of the studies have been completed.

It may be mentioned that in pursuance to the policy of the Government of India, the Company has been sharing its knowledge and experience with other developing countries all around

the world. In the past, Company had extended such cooperation to the Imperial Government of Iran, Government of Tanzania, Government of Zanzibar and many other countries. During the year, NIDC has been engaged in the following projects in the furtherance of TCDC concept. (a) Establishment of a Technical Consultancy Organisation in Mauritius; and (b) Assistance to Tanzanian Industrial Studies and Consulting Organisation (TISCO), Tanzania, in the field of chemical process plants, wood processing industry, textile mills engineering industry etc.

The Company has also been exploring possibilities of cooperation with the consultancy engineering firms in developed countries for jointly working on the third country projects. As a result of its sustained efforts in this direction, it has achieved a breakthrough and an assignment has been undertaken with a French Consultancy Firm M/s. BCEOM of Paris for providing construction supervision services for a 500 km road construction project in Saudi Arabia.

Indo-US Financial Cooperation

India and USA signed recently two agreements for development assistance to India totalling Rs. 550 million (68 million dollars).

The agreements were signed by Dr. Manmohan Singh, Secretary, Department of Economic Affairs in the Union Ministry of Finance and Mr. Robert F. Goheen, Ambassador of the United States in India, on behalf of their countries.

The major agreement is for a loan of Rs. 470 million (58 million dollars) for accelerating the pace of electrification in rural areas. The loan will be utilised by the Rural Electrification Corporation (REC) to finance rural electrification shcemes of State Electricity Boards in a number of States. These shcemes will energize pump sets for the development of groundwater resources for increasing agricultural productivity, provide power to small rural industries and also electricity for street lighting and households in the villages.

The second agreement, for Rs. 80 million (10 million dollars), is an amendment to last year's loan agreement of 28 million dollars to finance import of insecticides to control resurgence of malaria.

The loans are repayable in forty years, with a ten year grace period, and carry an interest rate of two percent during the grace period, and three percent thereafter.

More Facilities for Foreign Tourists

With a view to licensing a larger number of shops, hotels, etc., to accept foreign currency against sale of goods to foreign tourists and also to providing facilities to small traders for direct participation in tourist trade, the Reserve Bank of India (RBI) has lowered the minimum annual foreign exchange performance to US $ 1,000 or its equivalent in places other than the metropolitan cities of Bombay, Calcutta, Delhi/New Delhi and Madras. The earlier limit laid down by RBI was US $ 2,000. The minimum annual turnover limit for metroplitan centres remains unchanged at US $ 5,000 or its equivalent.

RBI has also decided to grant money-charger's licences to hotels which have potentialities for attracting business even if they are not approved by the Department of Tourism, provided they undertake to achieve the minimum annual foreign exchange turnover of US $ 5,000/US $ 1,000 as appropriate.

In order to extend the network of money-changers and thus make more facilities available to foreign tourists, the Reserve Bank will henceforth be prepared to consider applications from the following categories of firms for grant of restricted money-changing licences :

(i) House boats operating in Kashmir.

(ii) Car/taxi/luxury bus operators recognised by the Department of Tourism, Government of India.

(iii) Well-known public hospitals, charitable hospitals, missionary hospitals and nursing homes.

Shops, emporia, hotels and other establishments engaged in tourist trade, which wish to obtain money-changer's licence under the liberalised policy, can now make necessary applications to the office of the Exchange Control Department of RBI under whose jurisdiction they are functioning.

Industrial Growth and Diversification

Modernising Steel Plant

A comprehensive programme for the modernisation of public sector steel plants is currently being implemented as a long-term measure to revamp technology in the plants and raise their production capacity. This incudes incorporation in Bhilai Steel Plant of the technological advance achieved in the Soviet Union since the setting up of the Bhilai Plant with Soviet assistance in 1959, which may double Bhilai's capacity to 5 million tonnes from its current capacity of 2.5 million tonnes of ingot steel. The on-going

expansion of Bhilai to 4 million tonnes will also enable the plant to contribute substantially to the projected expansion of India's steel production capacity from 10.6 million tonnes of ingot steel to 14.6 million tonnes by 1983-84.

Other highlgihts of the modernisation scheme include the completion of the modernisation of the Hot Strip Mill at Rourkela by the end of this year to increase the supply of better quality hot rolled coils; the commissioning of feasibility reports which may increase the capacity of Durgapur and Rourkela through the adoption of latest technology and diversification of products; and the preparation of a perspective plan, item-wise, on new Research and Development programmes for Bhilai, in collaboration with the Soviet Union, for the period 1979-84.

Modernisation, on a scale much larger than attempted before, has been undertaken in the plants which were set up two decades ago, mainly because steel technology has advanced very rapidly, with older processes and equipment being replaced in steel plants the world over. Bulk of the production has been from the old open-hearth furnaces at Bhilai, Durgapur, the Iron and Steel Company (IISCO) and the Tata Iron and Steel Company (TISCO). Even the Hot Strip Mill at Rourkela is still a first generation mill, while corresponding mills in West Germany and other countries had been modernised to give better quality yield. Bokaro, whose first blast furnance was commissioned in 1972, is a relatively modern plant.

While the possibility of doubling Bhilai's capacity through technological innovations and improvements was explored in detail during the then Union Steel Ministers, a visit to the Soviet Union in October 1978, considerable progress has been made in the other areas of modernisation at Bhilai. This includes the conversion of the outmoded open hearth furnace into twin hearth furnaces to increase productivity and the coal dust injection plant now being set up in Bhilai, which may help in replacing scarce coking coal by non-coking coal in the blast furnace for the manufacture of steel.

A feasibility report is also being prepared which may marginally increase the capacity of Rourkela plant, the new areas of improvement relating mainly to the better preparation of raw materials including coal, modernisation of the existing blast fruances including the installation of an additional furnace and the revamping of the rolling mills.

The 1700 mm, semi-continuous Hot Strip Mill of Rourkela, installed in 1961, required major revamping to maintain production and meet the more stringent demand of customers for better quality hot rolled coils. The scheme for the modernisation of the mill is now under way at a cost of Rs. 316.5 million. The project to instal a cold rolled (CRGO) silicon electrical steel sheet plant at Rourkela, is also being implemented. The requirement of this steel, which is used for the manufacture of transformer core, is at present being met entirely through imports and these sheets will thus for the first time be produced in the Rourkela silicon plant, which will go on stream by 1981.

Consultants have also been commissioned for the modernisation of the 1.6 million tonne capacity Durgapur Steel Plant, which may icrease its capacity, mainly through improved preparation of raw materials, modernisation of the blast furnace complex, installation of 50 to 60 tonne bottom-blown oxygen converter along with Continuous Casting Machines at a cost of Rs. 138 million and the installation of a Rs. 750 million Universal Beam Mill to produce items required in heavy construction.

The scheme to increase the capacity of Alloy Steels Plant (ASP), Durgapur, from 100,000 to 160,000 tonnes, is expected to be completed by the end of this year, at a cost of Rs. 84.6 million. A scheme for its further expansion from 160,000 to 260,000 tonnes of liquid metal per year through the introduction of modern vaccum technology was approved by the Steel Authority of India Limited (SAIL) and is under consideration of the Government.

Since the takeover of IISCO by the Government in 1972, an extensive Plant Rehabilitation Scheme has been in operation and a ten-year capital expenditure programme has been launched to restore the technological, economic viability of the plant. About 90 percent of the Rehabilitation Scheme is complete. Among the major new schemes being considered are rehabilitation of mines and the installation of a sentering plant at an estimated cost of Rs. 650 million.

Among the other schemes involving improved technology are research on means to reduce use of coking coal by the greater use of non-coking or inferior coals, development of sponge iron production and the desulphurisation (cleaning) process for steel at Rourkela, which if successful, will be adopted in all the integrated steel plants.

Higher Investment Rate in Private and Public Sectors

According to the Planning Commission's estimates, the investment rate, i.e. gross capital formation as a per-

centage of gross national product at current market prices, increased from 13.09 in 1977-78 to 13.68 in 1978-79 in the private sector and from 9.59 in 1977-78 to 10.40 in 1978-79 in the public sector. This was indicated by erstwhile Union Minister of State for Planning.

It was pointed out that the total investment proposed in the Draft Sixth Plan was Rs. 10,59,000 million at 1977-78 prices. This marked a significant step-up over the investment proposed in the Fifth Plan. The investment rate is expected to go up from 18.9 percent in 1977-78 to 23.9 percent in 1982-83.

The Minister said that the increased level of investment in the public sector was being ensured through the instrumentality of the Annual Plans. The public sector outlay on rural development was estimated in the Draft Plan at Rs. 299,250 million compared with Rs. 147,510 million in the Fifth Plan. The public sector outlay on industry was also being stepped up from Rs. 73,620 million in the Fifth Plan to 103,500 million in the Sixth Plan. The increase in the case of village and small scale industries was particularly substanital as the outlay is expected to go up from Rs. 5,100 million to Rs. 14,100 million, he added. The Minister also said that in order to stimulate private investment in industry, the mesasures adopted include simplification of licensing procedures, de-licensing of certain industries, liberalisation of imports of raw materials and spare parts for machinery, reduction in the area of price controls, fixation of administered prices of cement, paper etc. at a remunerative level and increased support through the Industrial Development Bank of India and other public financial institutions.

Rail Track Modernisation Programme

Over 1,300 kilometres of rail track will be modernised and strengthened during 1979-80 at an estimated cost of Rs. 883.8 million.

During 1978-79 about 1,000 kilometre long track was strengthened at an expenditure of over Rs. 700 million. Out of total provision for track renewals during 1979-80, Rs. 588.3 million will be spent on works already in hand and the balance of Rs. 295.5 million on new works.

The Indian Railways are progressively strengthening track on trunk routes to meet the increasing demands of both freight and passenger traffic. The track modernisation programme consists of providing better and stronger track structure and adoption of improved methods of maintenance. This would on the one hand reduce maintenance costs and on the other increase the useful service life of both the permanent way and rolling stock.

Under the programme 52 kg./metre and 60 kg./metre rails are being used on broad guage traffic routes and 37 kg. metre on important metre gauge routes. For the sections having steep gradients and sharp curves where the rails wear out fast, the Railways are using special wear-resistant rails.

All new rails laid in the track are now welded either in short panels or in long lengths of 1 km or more. The reduction in the number of rail joints due to welding of rails has added to the travel comforts of the passengers by reducing the noise level. This has also resulted in saving in fuel consumption and maintenance cost of track and rolling stock.

Under the modernisation programme prestressed mono-block concrete sleepers are being used on the high speed routes having heavy traffic density. On these routes track is being maintained by 50 automatic 'on-track' Tie Tampers.

The running characteristics of track are regularly monitored on important routes by eight Track Recording Cars and two Oscillograph Cars. The Railways also use Ultrasonic Rail Flaw Detectors to detect flaws in rails not visible to the naked eye. This enables the Railways to minimise the possibility of a rail fracture in the track.

Singrauli Thermal Station to be Expanded

The Singrauli Super Thermal Power Station, India's first large capacity thermal station, will have an ultimate capacity of 2000 MW. The project will be constructed in two stages. While work on the first phase of 600 MW is already in progress, sanction for the second stage of 1400 MW involving an investment of nearly Rs. 5,000 million has been accorded by the Government. This phase will consist of two units of 200 MW each and two of 500 MW each.

Singrauli is the first of four super thermal projects currently under construction by the National Thermal Power Corporation (NTPC), a public undertaking under the Union Ministry of Energy.

Against the first phase of the project which comprises three units of 200 MW each, the main plant equipment was ordered by NTPC in January 1978 on the basis of global tenders. Inspite of the remoteness of the location, non-availability of road and railway facilities near the project site, the construction activities relating to

main plant were also started in February 1978.

The work on the project is progressing fast. Over 7,000 piles have been driven to create the foundations for heavy equipment. More than 50 percent of 16,000 tonnes of steel structural work has been completed. Boiler erection is progressing. Work on the cooling water system for making use of the Rihand waters through a 500 metre long pump house and gigantic intake and discharge ducts is in full swing. Work on the Merry-Go-Round Railway system—a new concept in coal transportation system introduced in India for the first time by NTPC for carrying about eight million tonnes of coal annually from the Jayant mine is also progressing satisfactorily.

Erection of transmission towers to transmit power to regional grids has also begun. Already 452 towers have been erected between Singarauli and Obra, and Singrauli and Kanpur. Haryana, Uttar Pradesh, Rajasthan, Punjab and Delhi will be the direct beneficiaries of this project and power in bulk will be sold to the State Electricity Boards as per capacity allocated to each of them.

A team of the World Bank experts recently visited the project site and appreciated the progress achieved. World Bank has already given $ 150 million credit for the first phase of the project. Aid amounting to $ 21.8 million in rupee value has also been received from the OPEC group. World Bank is also appraising the Singarauli expansion project upto 2000 MW capacity now approved by the Government.

Industrial Growth Rate Up

According to the index of industrial production compiled by the Central Statistical Organisation, the rates of industrial growth during 1976-77, 1977-78 and 1978-79 were 9.5 percent, 3.9 percent and 7.4 percent (provisional) respectively. This was stated by the erswhile Union Minister of Industry in the Rajya Sabha recently. He discounted reports that the industrial growth rate had slowed down during 1978-79 or the current year so far.

Government, he added, had taken several measures to improve the rate of industrial growth. Emphasis had been given to the importance of monitoring and management of indutrial production in the country. At the highest level, an Ad-hoc Committee of the Cabinet for monitoring industrial growth was set up to continuously monitor industrial production and coordinate activities of the concerned Ministeries. High powered Monitoring Cells had also been functioning in the Directorate General of Technical Development (DGTD), various administrative Ministries and the Planning Commission, he added.

In order to ensure regular and adequate availability of essential raw materials, he continued, two Committees-at Secretaries level had been set up to anticipate shortages of industrial raw materials and to expedite decisions regarding the imports, prices, canalisation arrangment, fical reliefs if needed etc.

HMT to Augment Watch Production

The State-owned Hindustan Machine Tools (HMT) produced 3,338,197 watches in 1978-79.

According to estimates of Task Force on watch industry constituted by Government, a demand of 7 million watches has been projected by 1979.

It may be mentioned that the HMT, was implementing a two-million watch project at Tumkur (Karnataka). The specialised watch components manufactured by this plant would be provided to 14 HMT-assisted watch assembly units situated in different parts of the country. In addition, the capacities of the existing watch factories at Bangalore and Srinagar were also being expanded.

Unauthorised Powerlooms to be Regularised

Manufacturers of unprocessed cotton fabrics with the help of unauthorised powerlooms will be granted central excise licences to carry on their production.

The Central Board of Excise and Customs has decided to extend this facility to powerlooms installed prior to January 1, 1979, but had not so far been authorised by the Textile Commissioner.

Applications for such licence are required to reach the proper Central Excise Officer not later than August 13, 1979 along with documentary evidence to show acquisition and installation of their powerloom or powerlooms before January 1, 1979. It is not necessary for the applicants to be in possession of the requisite written permission of the Textile Commissioner for installation and working of the powerlooms in question. Such permission will, however, be required to be obtained and produced before the proper central excise officer by December 31, 1979.

Grant of licence in the above cases is subject to central excise duty being paid by the licensee at prescribed compounded rates.

Duty Concessions on Certain Items

Melting scrap used in production of steel by the mini-steel plants is in

centage of gross national product at current market prices, increased from 13.09 in 1977-78 to 13.68 in 1978-79 in the private sector and from 9.59 in 1977-78 to 10.40 in 1978-79 in the public sector. This was indicated by erstwhile Union Minister of State for Planning.

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Government, he added, had taken several measures to improve the rate of industrial growth. Emphasis had been given to the importance of monitoring and management of indutrial production in the country. At the highest level, an Ad-hoc Committee of the Cabinet for monitoring industrial growth was set up to continuously monitor industrial production and coordinate activities of the concerned Ministeries. High powered Monitoring Cells had also been functioning in the Directorate General of Technical Development (DGTD), various administrative Ministries and the Planning Commission, he added.

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HMT to Augment Watch Production

The State-owned Hindustan Machine Tools (HMT) produced 3,338,197 watches in 1978-79.

According to estimates of Task Force on watch industry constituted by Government, a demand of 7 million watches has been projected by 1979.

It may be mentioned that the HMT, was implementing a two-million watch project at Tumkur (Karnataka). The specialised watch components manufactured by this plant would be provided to 14 HMT-assisted watch assembly units situated in different parts of the country. In addition, the capacities of the existing watch factories at Bangalore and Srinagar were also being expanded.

Unauthorised Powerlooms to be Regularised

Manufacturers of unprocessed cotton fabrics with the help of unauthorised powerlooms will be granted central excise licences to carry on their production.

The Central Board of Excise and Customs has decided to extend this facility to powerlooms installed prior to January 1, 1979, but had not so far been authorised by the Textile Commissioner.

Applications for such licence are required to reach the proper Central Excise Officer not later than August 13, 1979 along with documentary evidence to show acquisition and installation of their powerloom or powerlooms before January 1, 1979. It is not necessary for the applicants to be in possession of the requisite written permission of the Textile Commissioner for installation and working of the powerlooms in question. Such permission will, however, be required to be obtained and produced before the proper central excise officer by December 31, 1979.

Grant of licence in the above cases is subject to central excise duty being paid by the licensee at prescribed compounded rates.

Duty Concessions on Certain Items

Melting scrap used in production of steel by the mini-steel plants is in

short supply. Imports are being arranged to reinforce the supply. Considering the high prices abroad and with a view to making the imported melting scrap available to mini-steel plants at reasonable prices, the Government of India had exempted melting scrap of iron and steel (other than heavy melting scrap of iron and steel) from the whole of additional duty leviable thereon unitl June 30, 1979. Considering the need to continue import of melting scrap for some more time; the customs duty exemption has been extended upto March 31, 1980.

Soda ash, an essential raw material in the glass and silicate industries, is in short supply. Imports are, therefore, being arranged to re-inforce the supply. Considering the high c.i.f. prices of soda ash aborad and with a view to making imported soda ash available to industries at reasonable prices, the Government of India had exempted soda ash of dense and light varieties from basic customs duty in excess of fiver percent *ad valorem* and 35 percent *ad valorem* respectively and from the whole of auxiliary duty of customs upto June 30, 1979. Considering the need to continue import of soda ash for some more time, the customs duty exemption has been extended upto March 31, 1980.

In view of the shortage of plain aluminium foil, which is used for strip-packing of drugs and medicines, and their high prices abroad and with a view to keeping the prices of drugs and medicines under check, the Government of India had exempted by a notification plain aluminium foil of thickness 0.02mm to 0.04mm containing more than 97 percent of aluminium imported for exclusive use in strip packing of medicines from the whole of the countervailing duty of customs. The exemption was valid upto June 30, 1979. On representations from the drug manufacturers and keeping in view that the import of plain aluminium foil would have to be continued for some more time, the Government has extended the exemtpion by three more months (upto September 30, 1979).

Ferro alloys including ferro nickel is at present exempt from basic customs duty in excess of 30 percent *ad valorem* only. Representations were received from the trade that the customs duty on nickel oxide sinter should be the same as applicable to ferro nickel, since prices of these two articles mainly based on the nickel content in it. After careful consideration, Government of India has decided to equalise the customs duty on ferro nickel and nickel oxide sinter to the level of 40 percent *ad valorem* basic.

The Government of India has reduced customs duty on parts of vari pitch sheave stepless spindle speed regulator for textile machinery from 75 percent *ad valorem* to 40 percent *ad valorem*. This has been done to bring the rate of duty on component parts at par with the rate of duty on the main textile machinery.

Coking coal with a low ash content which is used in the steel plants is in short supply; imports are therefore, being arranged to reinforce the supply. Considering the high C.I.F. prices of the coking coal abroad and with a view to making the imported coking coal available to steel plants at reasonable prices, the Government of India had fully exempted coking coal from the entire basic, auxiliary and additional duty of customs, upto June 30, 1979. Considering the need to continue import of coking coal for some more time, the customs duty exemption have been extended for one more year.

Indo-FAO Project for Fisheries Development

An agreement for setting up a project for development of small-scale fisheries in the Bay of Bengal region was signed recently between the Government of India and the Food and Agriculture Organisation (FAO). The agreement was singed by Mr. R. K. Saxena of the Union Ministry of Agriculture and Irrigation on behalf of the Government of India and Dr. A. S. Alwen, Resident Representative, on behalf of FAO.

The project envisages undertaking various activities intended to bring about a significant improvement in the standard of living and quality of life of the small-scale fishermen and increasing fish production. The Swedish International Development Agency is contributing about Rs. 35 million towards the project during the next three years.

The Food and Agriculture Organisation is proposing to start a project with Madras as the base to serve the small-scale fisheries development in the Bay of Bengal region covering India, Sri Lanka, Bangladesh, Thailand and Malaysia.

The project is of a great significance to the development of small-scale fisheries particularly because it seeks to assist small and economically weak fishermen. The small-scale fisheries sector accounts for about 60 percent of the marine fish production, engaging one million fishermen and operating about hundred thousand fishing boats of traditional design.

Direct Supplies of Vitamin C from Manufacturers

Drugs formulation can now directly get their supplies of Vitamin C from indigenous manufacturers.

The Government, after consultation with various industry associations, has decided that formulators need no more register their requirements of Vitamin C with the Chemical and Pharmaceuticals Corporation (CPC) and that they can directly enter into bilateral arrangements with indigenous manufacturers for supplies of Vitamin.

Registeration of Vitamin C requirements with CPC has been dis-continued taking into account the trend of indigenous production of the material.

At the instance of the Government and as part and parcel of the decision to allow bilateral arrangements, Sarabhai Chemicals, one of the largest producers of the Vitamin C, have undertaken to honour indents of small-scale units at the price notified by the Government for Sarabhai Chemicals under the Drugs (Prices Control) Order, 1979. The Company has already intimated that they will service all indents of Vitamin C placed with them by small-scale units during 1979-80.

Science and Technology

Indigenous Oil Well Cement Additive Developed

The technology for the production of oil well cement additive developed by the Regional Research Laboratory (RRL), Jorhat, has been adopted by a Bombay firm, Hico Products Private Limited. The firm has commenced commercial production of oil well cement additive and they are supplying the product to Oil India Limited (OIL). The product conforms to API testing schedule '7' in respect of thickening time. This is reported in the Technology Awareness Service of the Council of Scientific and Industrial Research.

In recent years, intensive oil exploration activity in the country by Oil India Limited and Oil and Natural Gas Commission has generated considerable demand for oil well cement additives. At present, the country imports oil well cement additives, such as Halad-9, at substantial cost in foreign exchange.

For good cementation, an ideal cement slurry should possess certain desirable characteristics like low viscosity, low filtration loss, requisite setting and hardening time and good strength after setting and hardening. To achieve the desired properties, an additve is added to the cement slurry in water. The type of additive to be used for cementation purposes depends on the geological conditions of the oil well.

With a view to developing an indigenous oil well cement additive, tailored to the geological conditions of oil wells in India, Regional Research Laboratory, Jorhat, undertook research and development work at the instance of Oil India Limited, Duliajan. The efforts of the laboratory resulted in the development of the correct type of oil well cement additive which can be used in place of imported additives. Oil India Limited extended facilities by way of testing the additive samples during developmental stage and confirmed their suitability or otherwise for their needs. The additive developed is prepared entirely out of indigenous raw materials.

NAL's Automatic Visual Range Assessor

The National Aeronautical Laboratory, Bangalore (NAL) has developed an Automatic Visual Range Assessor (AVRA) system that automatically performs various visual range assessing functions.

In modern flying operations during bad weather, blind flying aircrafts may be instrumentally guided to points very close to the landing zone. The pilot will have to commence his landing approach almost immediately thereafter. If after committing his aircraft to land, the pilot finds that the visibility is too low for a safe touch-down, he will have a margin of only a few seconds to initiate corrections to regain attitude. This involves a delicate and potentially dangerous manoeuvre by a heavy aircraft travelling at nearly 100 metres per second. On the other hand, economic imperatives forbid frequent, unscheduled diversions based on unduly pessimistic reports of visibility. It is clear, therefore, that to satisfy the requirements of safe, yet reasonably economic flying operations, accurate quantitiative reports of runway visibility are required.

The maximum distances at which non-luminous and luminous objects can be just barely percived are generally different. The former is known as the daylight visual range (DVR) and the latter as the runway visual range (RVR). For flying operations the non-luminous objects of interest are usually runway markings and the luminous objects are the runway edge lights.

The RVR is sometimes measured by a human observer looking down the runway to count the number of edge lights he can see. Such measurements will suffer from subjective errors and inconsistencies. To eliminate human inaccuracy and limitations, it is necessary to continuously measure and report DVR and RVR with accurate, quick-acting automatic instruments.

Such a system requires field-sites deployed at different points along-side the runway, containing instruments that continuously measure atmospheric transmittance and background lumi-

nance. The data obtained by these instruments have to be remoted to a central processing unit (CPU). The on-line CPU computes, displays and prints out the DVR and/or RVR.

Airconditioning and defogging of the field site instrumentations is done to render the system insensitive to ambient temperature and humidity effects. Moreover, extensive tests indicate that the AVRA is insensitive to background light, is free from dazzle and is radio silent.

ISI's New Standards

Indian Standards Institution has published the second revision of an Indian Standard specification for EC grade aluminium rod produced by rolling (IS:1841-1978) which covers the requirements for EC Grade aluminium redraw rods, 9.5mm in nominal diameter, produced by rolling for electrical conductors. This standard was first published in 1961 and subsequently revised in 1971. A further revision has now become necessary to include the requirements of an additional grade of aluminium with a controlled Si/Fe ratio which is also suitable for production of rods, by wire-bar rolling processes. Several factors play vital part in controlling not only the conductivity of the conductor but also its strength and elongation. One of the vital factors for Grade 3 aluminium is Si/Fe ratio. This material offers a composition for manufacturing wire-rods to obtain optimum properties required for purposes of insulated cables, flexible cable, telephone cables, winding wires, covered conductors, etc. However, wires produced from Grade 3 aluminium has to be subjected to intermediate annealing at an appropriate size of wire during wire drawing to obtain the specified electrical conductivity in the finished conductor.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

The Institution has also published the first revision of an Indian Standard specification for EC Grade aluminium rod produced by continuous casting and rolling (IS:5484-1978) which covers the requirements for EC Grade aluminium redraw rods, 9.5.mm in nominal diameter, produced by continuous casting and rolling for electrical conductors. This standard was first published in 1969 in view of the increasing demand for EC grade aluminium rods produced by continuous casting and rolling process, such as Properzi by the conductor and cable industry and also due to the fact that there are a number of established manufacturers in this field in the country. A revision has now become necessary to include the requirements of an additional grade of aluminium rod with a controlled Si/Fe ratio which is also suitable for production by continuous casing and rolling.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licence for putting ISI Mark on their products may contact the India Standard Institution.

Another Standard called Indian Standard Specification for electric solenoid operated actuators (IS:8935-1978), has been published which specifies the requirements and tests for ac (50 Hz) and dc electric solenoid operated actuators used for positioning of control valves.

Electric actuators are electrically powered devices which are operated by some from of electric control system and are used to position control elements. These are mostly used to position control valves. They may also be used to position various other devices, such as dampers, burners, rheostats, dry feeders, etc. Depending on the operating principles, these electric actuators are classified as (a) electric solenoid operated types and (b) electric motor operated types.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

The Institution has also published an Indian Standard specification for steel ingots and billets for production for carbon steel wire rods (IS:8951-1978) which covers the requirements for ingots (including cast billet ingots) and billets (including continuously cast billets) for the production of carbon steel wire rods. With the rapid industrialization in the country, quite a number of mini steel plants have come up. As there is no standard specification available for ingots or cast billets, it is felt that there may be a possibility of substandard material being produced in the engineering and constructional purposes which is not desirable. The Ministry of Industrial Development of the Government of India has desired that the mini steel plants should be registered for the manufacture of steel ingots of different categories. In order to assure the quality of ultimate products it has become necessary to issue standards covering these products. This standard is one of the standards published in this series.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme.

NTC—Clothier to the Masses

The National Textile Corporation (NTC) has for the first time earned a profit of Rs. 23.6 million during 1978-79. While its performance during the year is commendable, more emphasis needs to be laid on efficient performance since it has a special role as 'clothier to the masses'. This was stated in New Delhi recently by the erstwhile Union Minister of Industry, at a meeting of the Chairmen-cum-Managing Directors of the National Textile Corporation convened to review the progress achieved so far and to draw up strategy for future development programmes.

While appreciating the distinctive features of the NTC, as compared to the private sector textile mills, it was revealed that the performance of NTC in 1978-79 had proved that it was possible for a public sector undertaking to function efficiently on commercial terms and still fulfil its social objectives. It was necessary for the NTC to build up a new culture of management which would infuse commitment among workers and managers to the new objectives which had been set before the NTC. It seemed advisable, the Minister said, that the subsidiaries and the holding company evaluated their own performance and that of individual mills in this perspective. It was particularly necessary to assess the results of the Conference of General Managers of all the textile mills held in Bangalore in October 1978, he added.

With regard to the programme for the current year and the future tasks before the NTC, it was stressed that special importance needed to be given to increasing the production of cheaper varieties of cloth and to the production and supply of yarn for the handlooms. "In this context, the NTC should examine the feasibility of undertaking the marketing of the entire yarn production by the textile industry for handloom weavers, he said, as this seemed necessary to free the distribution of yarn from the speculative conditions that prevailed in the textile industry as a whole.

The programme of expansion, modernisation and diversification was also discussed. In 1978-79, the NTC added 80,000 spindles to its existing capacity of 3.2 million spindles. This expansion programme will be increased to 300,000 spindles in the next two years which could be increased further provided adequate resources were made available. The NTC will also give priority to the programme of diversification which would include hosiery, linkages with the handloom sector, tailoring and garment manufacturing and the production of chemicals and other necessary inputs for captive consumption. The holding company was directed diversification, or integrated programme of action for.

At the time of incorporation of NTC in April 1968, there were only 16 mills under Government management. This figure gradually went up to 103 during 1972-73. All the Government managed mills were nationalised by an Act of Parliament in December, 1974. Management of two more mills in Kanpur was taken over in July, 1976 by issue of an Ordinance. Management of six industrial undertakings of Swadeshi Cotton Mills was taken over in April, 1978 under I(D&R) Act, thus bringing the total number of mills under the NTC to 111.

With a view to ensuring effective management on decentralised basis, NTC has formed 9 subsidiary corporations with headquarters at Delhi, Kanpur, Indore, Bombay (two subsidiaries), Ahmedabad, Calcutta, Bangalore and Coimbatore.

NTC has commissioned 96 percent of the installed spindles and 95 percent of the looms. Presently, the NTC mills produce around 75 million metres of cloth and 5.8 million kgs. of market yarn for the market every month. The following table gives the production of yarn and cloth by the NTC mills from 1974-75 onwards :—

Year	Market Yarn (Ml. Kgs.)	Cloth (Ml. Mets.)	Value of Production (Rs. in million)
1975-76	49	764	2,530
1976-77	57	816	3,470
1977-78	55	853	4,100
1978-79	70	940	4,800

NTC mills are expected to produce 70 million kgs of market yarn and 1,000 million metres of cloth during 1978-79. Production by the end of Sixth Plan is expected to be 1,100 million metres of cloth and 90 million kgs of market yarn.

During the period 1975-78 the production of cloth in the cotton textile industry excluding NTC mills had come down from 3,456 million metres to 3,327 million metres, thus restering a reduction of 3.73 percent. During the same period, production in NTC mills increased from 764 million metres to 843 which went up to 940 million metres in 1978-79, thus registering an increase of approximately 11.5 percent.

The production of cotton yarn in the cotton textile industry excluding NTC mills during the period 1975-78 came down from 872 million kgs in 1975 to

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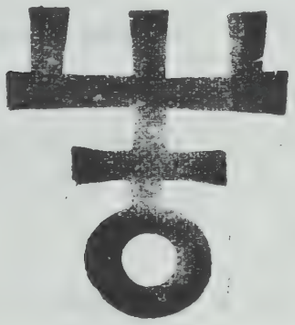

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economic and commercial news

News Highlights

Strengthening Indo-Iraq Economic Ties

India and Iraq has agreed to make special efforts to expand economic cooperation during 1979. The Trade Plan for 1979 envisages export worth US $ 150 million to Iraq. Indian firms are presently execu ing 21 projets in Iraq valued over Rs. 4000 million. Iraq will supply nearly six million tonnes of crude oil for India in 1979.

Indian Firm Bags Saudi Arabian Project

An Indian project engineering firm M/s Dalal Consultants and Engineering Private Limited, secured recently a construction contract valued at Rs. 160 million in Saudi Arabia. The two year's project includes civil works, piping, air-conditioning and electrificatio . The project will be executed by the firm as per the design of an American firm under the supervision of British consultants.

NBCC Awarded Housing Project in Libya

The National Buildings Construction

(*Contd. on page* 2)

Export Performance and Potential

Furthering Indo-Iraq Economic Cooperation

India and Iraq has recently agreed to make special efforts to expand economic and technical cooperation in the course of 1979. This followed the discussions held between the two countries during the Inter-Sessional meeting of the Indo-Iraq Joint Commission in New Delhi from July 19 to 26, 1979.

The Iraqi delegation was led by Mr. Farouk Dawood Salman, Director General, Ministry of Trade and the Indian delegation was led by Mr. V.K. Grover, Joint Secretary, Ministry of External Affairs. At the conclusion of the Inter-Sessional meeting, the agreed minutes were signed by the two leaders.

The Trade plan for 1979 envisages export worth US $ 150 million to Iraq. It was noted that over the last year and a half, Indo-Iraq economic co-operation has shown significant progress. Indian firms are presently executing 21 projects in Iraq valued at over Rs. 4000 million. These projects are in such diverse fields as construction of bridges, grain silos, fly-overs, water supply and sewerage schemes, housing complexes etc.

At the same time, India has now emerged as the largest importer of Iraq's non-oil products like sulphur, urea and dates. Iraq will be supplying nearly six million tonnes of crude oil to India in 1979. Iraq is now India's largest supplier of oil.

Discussions during the Inter-Sessional meeting of the Joint Commission covered promotion of Indo-Iraq cooperation in the fields of trade, industrial collaboration and consultancy, transport, agriculture and irrigation, and

Corporation (NBCC) won a $50 million contract for a housing project in Libya. In the first phase of urban township, the NBCC will help in the construction of 500 houses for which 1,000 Indian workers are being sent to Libya.

India's Assistance to Nepal

India continues to lead countries assisting Nepal in its economic developments. India's aid to Nepal during 1978-79 was over Nepalese Rs. 2,000 million. During the year, Indo-Nepalese Memorandum of Understanding committed India to a series of joint ventures lines and meeti g the needs of manpower training in small and medium industries.

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technical services. These discussions were marked by mutual understanding and cooperation. Both sides felt that such cooperation between India and Iraq provided a shining example of how two non-aligned developing countries could work together for fostering greater self-reliance.

Important decisions were taken at the meeting to give greater fillip to economic and technical cooperation between the two countries. In order to encourage Indian participation in Iraq's industrial projects, it was agreed that Iraqi organis .tions would invite Indian firms to submit bids for projects, and other things being equal, Indian bids would be given preference.

Iraq has also agreed to give all encouragement to Indian consultancy organisations to prepare feasibility and consultancy reports for Iraqi projects. In the field of agriculture, the Iraqi side has sought Indian cooperation in the field of diary development and inland fisheries. The Indian side has expressed considerable interest in participating in Iraq's railway projects both for consultancy contracts and execution of projects.

It was recognised by both sides that India has now emerged as an important participant in Iraq's development programmes through the deputation of Indian experts to Iraq. The Iraqi side appreciated the cooperation extended by India in her developmental efforts. There is presently in India a recruitment team from Iraq for recruiting 600 experts. Iraq has also requested for the services of 500 doctors.

The Ministerial meeting of the Joint Commission is likely to be held at New Delhi in November-December, 1979.

BHEL Wins Turnkey Contract in Ghana

Bharat Heavy Electricals Limited, (BHEL), Bhopal, a Government of India undertaking, has entered the West African Market. Volta River Authority of Gha a has chosen BHEL for a turnkey contract worth Rs. 25.3 million from a host of internationally reputed bidders.

According to BHEL, the order is the first in many respects, since this is the first export order for reactive power compensation equipment comprising synchronous condenser, capacitor and series reactor bank and associated control equipments.

Under this turnkey contract for the 161 KV Prestea and Kumasi Sub-Stations of Volta River Authority, Ghana, BHEL will be responsible for complete system design, civil work design, manufacture, erection and commissio ing of equipments.

The system design for this project has been done by the Projects Engineering Division of BHEL, New Delhi.

Scope of supply of equipment from BHEL, Bhopal consists of :

(i) 25 MVAr, 161 kV, 3 phase capacitor bank, series reactor for limiting inrush current, neutral current transformer for unbalance protection of capacitor bank, external fuses.

(ii) Cooling water system for 25 MVAr synchronous condenser; BHEL, Hyderabad shall manufacture the synchronous condenser ; and

(iii) Control and relay panels for protection and control scheme of the complete system.

This is a major breakthrough for BHEL in the field of reactive power compensation equipment for export, entirely engineered and manufactured by the company.

India's Participation in Tokyo Fair

Engineering Export Promotion Council (EEPC) organised its first ever participation in the 13th Tokyo International Trade Fair held in Tokyo, recently.

Tokyo International Trade Fair is organised by Tokyo International Trade Fair Commission. This is a general trade fair comprising display of household products, handicrafts, food products, industrial machinery, bicycles and sports and recreation equipment. Besides, there is an International Hall where national stands are located. The Tokyo International Trade Fair occupied a total area of 58,000 sq.mtrs. spread over 7 Halls and outdoor area. Total number of exhibitors was 2200 in 2600 booths.

India's participation was designed to highlight availability of quality hand tools and cutting tools from India. Being the first participation in a traditionally exporting country, where Indian manufacturers did not hope to achieve much results, the participation was confined to products from only three firms. The results, however, were encourging as may be noted from the following paragraphs.

Indian Stall occupied an area of nearly 460 sq.ft. in Hall 5 Industrial Machinery Hall. Items on display in this hall comprised machines and equipment utilising wind and hydraulic power, metal processing machines, conveyors, optical instruments, compressors, submersible pumps, bearings, hand tools, cutting tools and various other engineering products. Indian Stall was well located right besides the South Gate entrance to the exhibition. The Indian Stall therefore, had direct access to most of the the visitors entering from the South Gate.

Indian participation comprised items such as the whole range of hand tools, vices, anvils, anchors, drilling machines, tungsten carbide tips and blanks. During the first three days of the Exhibition, there was not much response received, but later on Indian Stall received a large number of trade visitors. It is presumed that it took Japanese dealers in hand tools and allied items, sometime to digest the fact that India was manufacturing a large range of hand tools of the quality which could satisfy the consumer needs in Japan. It is estimated that over 30,000 visitors both from trade and public visited Indian Stall. The total number of trade enquiries received were 69.

It is gratifying that business worth US$ 82,000 was secured as a result of India's successful further participation and business amounting to US $ 25,000 is expected to materialise soon. The Council is of the opinion that the business secured on the spot is however not indicative of the over-all volume of business that could develop provided sustained marketing efforts is made in this market.

It will be recalled that a Market Survey Team had been sent by the Council in the month of May-June 1978 and one of the major areas where prospects were identified for build-up in exports to Japan was hand tools. The report published by the Team, has indicated that Japanese market for hand tools could be clearly divided into two parts (a) industrial consumers and (b) do-it-yourself market. While due to various peculiar inbuilt features of the Japanese trade and economy, it is very diffiult to introduce Indian hand tools for industrial use, considerable prospect exists for marketing Indian tools to meet the demand arising from the developmet of do-it-yourself market. Hand tool products continue to be highly labour-oriented and in view of the rising cost of labour in Japan, coupled with the fact that DIY market calls for cheaper material, it is becoming increasingly difficult for local manufacturers to meet the requirements of this sector. This sector, therefore, offers considerable scope for marketing Indian hand tools. Another peculiarity of trading with Japan is that unlike all other countries where Indian hand tools are marketed, it is felt that in Japan the best source for distribution and marketing of hand tools would be to have a tie-up with Japanese hand tool manufacturers themselves.

Significant Export Contracting by PEC

For the Projects and Equipment Corporation of India Ltd., (PEC), the year 1978-79 can be termed as a year of consolidation before a leap forward. While the total turnover at Rs. 370 milllion is marginally lower than that of last year, rate of contracting attained new heights during the year. During this period the contracts worth Rs. 722 million have been booked. Of these, export contracts are valued at Rs. 675 million. As a result of heavy contract booking during the last year, the total value of contracts in hand now, stands at Rs. 681 million. At the beginning of the last financial year, the comparable figure was Rs. 315 million reflecting an increase of about 116

percent. The Company's main lines of export have been railway equipment, mechanical equipment, electrical equipment, textile machinery and turnkey projects and so on.

During the year under review, PEC completed supply of 30 passenger coaches to Philippines and 66 wagons to Bangladesh, both the contracts were fulfilled on time. In March, PEC signed a contract for supply of sulphuric acid tank wagons to Zambia valued at Rs. 10 million. PEC also received a letter of intent for supply of Rs. 40 million worth of wagons to Bangladesh Major railway equipment contracts secured earlier in the year were for supply of wagons, coaches and bogies to Vietnam and coaches to Sri Lanka.

Shipment of mechanical equipment during the period amounted to Rs. 100 million. This includes supplies of sophisticated items to mark ts like USA, USSR and other European countries. The shipment to USA and USSR registered a growth of about 15 percent. Booking orders in USA had also bee particularly good. In the recent New Orleans Fence show in USA, out of US $ 1.3 million worth of orders booked by Indian parties, PEC's share was US $1 million. Carry-forward of order is about Rs. 95 million.

The total shipment of electrical engineering goods totalled Rs. 50 million and the orders in hand are valued at Rs. 42 million. PEC obtained repeat orders for a number of elctrical items agai st global tenders and made inroads into new markets. PEC also obtained order for an electrical project for setting up light houses in Malaysia during the year.

Shipment of textile machinery during the year under review was Rs. 33.5 million showing 20 percent increase over the year prior to it. All the equipment and machinery for on-going textile mill in Bangladesh were supplied, erected and commissioned by PEC on turnkey basis and this is the fourth textile mill in Bangladesh with which PEC has been associated.

PEC has also been concentrating its efforts on turnkey projects and working with well known contracting firms of the developed countries for third-country projects as well as sub-contracting. Offers for projects valued at Rs. 3000 million are in various stages of negotiations.

During the year 1978-79, PEC had no canalised items of import with it, yet the turnover was Rs. 96 million. This is a measure of confidence shown by the industry in utilising services of PEC for importing goods. Main items imported were graphite electrodes, anodes and earth-moving equipment.

It is significant that during the year, PEC introduced a number of new items to the existing markets, such as boilers and drying booths to USSR, electric poles to Abu Dhabi, light house equipment to Malaysia, fence items to USA etc. Orders were also booked from new markets, such as, Vietnam, Mali, Brazil etc.

As a result of PEC's continued efforts in helping the small scale industries, the exports, from this sector aggregate to over Rs. 85 million. During 1978-79, about 31 percent of PEC's exports originate from the small scale sector as against 15 percent during preceding year. The products exported from the small sector include petrol dispensing pumps, garage equipment, construction hardware, industrial castings and forgings, fence items, electric poles, and other electrical items, machine tools, components and small tools etc. To this sector, PEC is providing not only its marketing services but also technical assistance to develop the products.

PEC has also been active in exhibition. During the year under review, PEC participated in seven international exhibitions and specialised trade shows. The important participations were at Indian National Exhibition, Moscow, Leipzig Trade Fair, New Orleans Fence Show and Indee '79, Djakarta. The order booking in these exhibitons/ fairs was of the order of Rs. 35 million.

Upward Trend in Handloom Exports

The overall exports of handloom goods from India during 1978-79 amounted to Rs. 2,614.82 million (provisional figures) as against Rs. 2,584.31 million in 1977-78, according to the Handloom Export Promotion Council, Madras. When the final figures are available, the Council hopes that there are chances of the targets being exceeded.

The exports of cotton handloom fabrics group comprising bleeding Madras; real Madras handkerchiefs; lungies and sarongs; dhoties; saries; shirtings and other fabric items accounted for Rs. 545.97 million in 1978-79 as compared to Rs. 815.92 million in 1977-78. The cotton handloom made-ups group consisiting of floor coverings; bedcovers and bedspreads; pillowcovers and table cloth; towels and napkins; and other made-ups accounted for Rs. 265.39 million in 1978-79 as compared with Rs. 345.42 million in 1977-78. The export earnings from cotton handloom readymades garments were of the order of Rs. 1,402.30 million in 1978-79 as against Rs. 1,094.21 million in the previous year. The exports of silk items covering mulberry and tassar silk goods during 1978-79 rose to Rs. 401.15 million from Rs. 315.96 million in 1977-78. The export earnings from handloom items other than cotton (including woollens) also went up to

Rs. 401.15 million in 1978-79 from Rs. 328.75 million in the previous year.

The exports of real Madras handkerchiefs during 1978-79 amounted to Rs. 194 million as against Rs. 395.7 million in the previous year. This may be treated as an achievement especially with the over selling of this item in the previous financial year as also with the introduction of L/C terms of payment against exports of this item to major importing countries like the Republic of Benin. It would appear that the excessive imports in 1977-78 were slowly being disposed of at the importing end. The prospect for the current year with the continuation of L/C terms to the select markets like Cotonou, Lome and Accta, would appear to be encouraging. The present pattern of demand would indicate that the plain design with less of embriodery or embellishment are gaining consumer acceptance.

Based on the provisional figures of exports for 1978-79, there are chances of exports touching the target of Rs. 90 million when final figures are received. It may, however, be pointed out that the exports of lunghies compared to the performance during 1977-78 witnessed a downward trend viz. from Rs. 101.2 million to Rs. 90 million. Among the reason for the shortfall are : the domestic demand for lunghies is quite brisk and larger turnover is assured and the demand for lunghies in the Middle East markets is not very encouraging in view of the heavy imports of polyster lunghies from China, etc.

The exports of dhoties and sarees are effected only to Nepal, Afghanistan and Bangladesh. The demand is most erratic and seasonal. Further, since the exports are by land routes, up-to-date satistics are not available.

The exports of shirtings during 1978-79 based on the provisional figures was only Rs. 1.84 million as against Rs. 15.4 million during 1977-78. The reason for the decline would appear to be due to increased tempo of exports of garments and the reluctance of importing countries to buy the fabrics and convert them into garments with high labour cost. The exports of shirtings mostly consisted of crepe and checks. The main markets are Japan and USA, besides France. Of late, Hong Kong is showing greater interest in import of fabrics for conversion into garments for exports to the quota countries.

The exports of other fabric items consisting of gada, casement, seersucker and furnishing fabrics during 1978-79 based on the provisional figure amounted to Rs. 260 million as against Rs. 290 million in the previous year. When the final figures are received the value of exports would be around the same figure as that of the figure in 1977-78.

Once the final figures are received, the over all picture of exports of fabric items during 1978-79 would reach the target of Rs. 580 million. The exports during 1977-78 which were around Rs. 815.9 million should not be treated as normal exports with the over-selling of real Madras handkerchefs. Thus, the exports of fabric during 1978-79 could be treated as normal and good.

Exports of cotton handloom made-ups during 1978-79 based on the provisional figures amounted to Rs. 265.4 million thus exceeding the target by Rs. 25 million. However the final, export figures during 1978-79 are expected to be around Rs. 300 million.

The exports of floor coverings during 1977-78 exceeded the performance in the previous year. Australia, according to a recent survey, promises great possibility for carpets. The present exports of floor coverings to Gulf countries in the form of prayer-mats and carpets is quite reasonable and promising.

The value of exports of bed-spreads and bedcovers during 1978-79 based on provisional figures was around Rs. 77.4 million. When the final figures are received, the target of Rs. 80 million could easily be achieved and exceeded. Here again, there is a decline when compared to performance in 1977-78 mainly due to lesser off-take of printed bedspreads from Uttar Pradesh and Rajasthan and also the decline in the popularity of waste cotton bedspreads of Haryana which were holding way in US market during 1977-78. The woven bedspreads from South to Australia were able to maintain the tempo of exports witnessed in 1977-78.

The exports of pillowcases and table cloth during 1978-79 show definitely a shortfall when compared to the level of exports in the earlier year. This is mainly due to the quota regulations imposed by the Nordic countries and especially Sweden for bedlinen, toilet linen, kitchen linen, etc.

The target of Rs. 80 million fixed for towels and napkins for 1978-79 is likely to be achieved when the final figures are available. There is, however, good scope for expanding the exports both to USA and Australia besides Scandinavian countries. There are indications that the exports of institutional items like face cloth, wash cloth, wiping cloth of Turkish weave would reach new heights if more looms are made available for export production. At present, Madurai and Magercoil, which are the important production centres of institutional items, have reached their optimum production capacity.

Made-ups comprising curtains, sacks and bags tarpaulin, tents, blankets, handkerchief, arabroomal, scarves, shawls, mufflers, etc. are having a regular market in the Middle East Countries. When the final figures are available the value of exports of these items would be around Rs. 60 million as against the target of Rs. 150 million.

The exports of handloom readymade garments based on the provisional figures for 1978-79 was arou d Rs. 1,400 million as against Rs. 1,094 million during the previous year. The present pattern of trade is mostly centred around the sensitive categories which are governed by quantitative restrictions in almost all the developed countries. Canada has also unilaterally brought in restrictions of imports on sensitive categories of garments. One of the solutions to step up exports of garments is to concentrate on non-sensitive categories of garments and also exploring possibilities in non-quota countries.

Exports of silk goods have been showing continuous y steady growth during the last four years and reached new heights during 1978-79 with exports worth Rs. 400 million.

Exchange Release for Business Tours Abroad

As the hotel tariff and living expenses abroad have gone up recently, the Reserve Ba k has enhanced the per diem scale of exchange released to persons travelling abroad on business, study tours, etc., and also modified the country grouping in the light of the relative changes in cost of living in the countries concerned as indicated below :

Country grouping	*Exchange release per day*	
	Senior businessmen	*Junior businessmen*
Group A (Saudi Arabia, Nigeria, Japan and some countries in Middle East and Gulf Region)	$ 125	$ 100
Group B (Western Hemisphere, UK, Europe, Iran, Libya, Algeria)	$ 100	$ 80
Group C (All other countries other than bilateral group countries)	$ 90	$ 70
Bilateral Group Countries	Rs. 800	Rs. 650

The Reserve Bank will continue to release exchange towards entertainment expenses amounting to $ 500 to senior businessmen and $250 to junior businessmen, in eligible cases.

Medical practitioners, journalists, scientists and other professional people undertaking study tours will be released exchange at the lower of the two business scales indicated above.

For release of foreign exchange for attending international conferences and seminars, the All-India bodies in the concerned fields can now sponsor 15 persons, instead of 10 persons as at present, the applications being sent directly to the Central Office (Exchange Control Department) of the Reserve Bank in Bombay as hitherto.

If, however, any All—India body wishes to sponsor more than 15 persons, it should approach the Department of Economic Affairs, Ministry of Finance, New Delhi, in respect of the persons exceeding 15. Where there are no All-India bodies in certain fields, individuals may apply directly to the Reserve Bank.

The offices of the Reserve Bank will release foreign exchange without insisting on sponsorship by an All-India body if a participant chairs a session or reads a paper in the international conference/seminar concerned. In view of the higher cost of living in other countries, the persons proceeding abroad for conference/seminars will be eligible for release of exchange on the scale as applicable to senior businessmen

Facilitating Movement of Export Cargo

Timely transporation of export cargo is an important factor in promotion of exports, Accordi g to the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for the year 1978-79, constant and careful attention is bestowed on matters relating to rail, shipping and air transport, which is a vital variable in international trade and commerce. Three Standing Committees known as SCOPE-AIR, SCOPE-SHIPPING and SCOPE RAIL have been constituted. These Standing Committees serve as

frums for evolving solutions to transport problems in relation to exports.

There has been considerable increase in the country's air exports due to installation of integrated aircargo complexes at the international airports of Bombay, Calcutta and Madras as well as at the inland airports of Bombay, Ahmedabad and Hyderabad. In view of the success of this scheme, it has been agreed, in principle, to commission air cargo complexes at the inland rairports of Varanasi, Trivandrum, Jaipur and Srinagar says the arrival oeport.

Air India and Indian Airlines have since augmented their cargo carrying capacity and the Central Board of Excise and Customs have also provided customs facilities for various additional items of exports from inland airports of the country where aircargo complexes have been set up.

At the instance of the Department of Commerce, the Board of Airlines Representatives (BAR-India) organised a seminar on the Growth and Professionalism in Air Freight in Delhi in July, 1978. One of the important resolutions passed in the Seminar was that BAR (India) will address itself to the task of achieving the objective of increasing India's air exports by 50 percent by 1980-81.

A Committee has been set up to solve the problem of shippers at intermediate ports so that diversion of cargoes from intermediate ports to other adjacent major ports is minimised by means of providi g regular shipping coverage at the intermediate ports. A Working Group was set up to suggest measures for the promotion of Container traffic. A Working Group was also set up for the development of minor ports in Gujrat State.

Commencement of a direct shipping service by M/s. Scindia Steam Navigation Company to Nigeria from June, 1978 and restoration of direct shipping services to Port-of-Spain, Trinidad by the same company in October 1978 are important developments in the shipping sector during the year.

In order to promote palletisation in the case of tea, engineering and other export shipments, Central Pallet Stations were set up at Madras and Calcutta. Similar Pallet Stations are expected to start functioning at other ports also in the country during 1979.

Procedure for the grant of dispensation to shippers has been liberalised and simplified. Under the revised procedure shippers should give 30 days advance notice of their shipping space requirements to Shipping Lines/Members of Conferences and necessary dispensation would be deemed to have been granted automatically, should there be no response from the latter within 10 days of receipt of such advance notice. The Shipping Lines have agreed to give 15 days notice to shippers whenever there is any change in the ETA schedule of their vessel.

A noteworthy development during the year under review was the evolution of a standard format, mutually acceptable to the shippers and shipowners, for the shipwoners to furnish cost/revenue data to the shippers to enable meaningful discussions being held on proposals for freight rate increases. The standard format has been drawn up in association with the East Coast of India/West Asia (Gulf) Conferences. Efforts are continuing to persuade other Shipping Conferences to adopt this format.

India had signed, subject to ratification, the UN Code of conduct for Liner Conferences which was adopted in April, 1974. The Code was ratified on February 14, 1978.

The existing international regulations relating to bills of lading are contained in the Hague Convention of 1924. The existing shipping laws and practices, created mainly by the powerful maritime developed countries without the participation of the developing countries, are not equitable from the standpoint of the latter. The United Nations Commission on International Trade Law, therefore, established a Working Group in 1969 to examine the rules and regulations concerning bills of lading with a view to revising and simplifying these rules for a new Convention. The new Convention was adopted by the UN Conference of Plenipotentiaries on March 31, 1978. The Convention was open for signatures until April 30, 1979.

At the initiative of the Department of Commerce, a Committee was set up by the Union Ministry of Railways to go into various aspects of movement of exports by rail to Bangaladesh. A daily 'Quick Transit Service' has been introduced ex-Saharanpur to Howrah and to Salt Cotaurs. The Ministry of Railways have agreed to utilise computer system for monitoring the movement of railway wagons carrying exports cargo. It has also been agreed to set up a committee to examine various measures designed to promote palletisation.

Industrial Growth and Diversification

Imports Substitution Committee Set Up

An Imports Substitution Committee has been constituted by the Union Ministry of Industry to review the technical, economic and fiscal policies

of the Union Government for the promotion of imports substitution.

Various policies and programmes are being pursued to reduce the dependence of the country on import of capital goods, technology and know-how, processed and semi-processed components, industrial raw materials etc. Efforts are also on to promote the rapid growth of indigenous industry for meeting internal demand and for exports. A review of the various measures initiated so far seemed necessary to evolve suitable strategies to speedily reduce the dependence of indigenous industry on imported items.

The 13-member Committee, comprising representatives of Union Ministries, Planning Commission and industrialist, is headed by Mr. S. M. Agarwal, former Secretary of the Union Ministry of Communications.

The Committee was inaugurated in New Delhi recently by Mr. S. S. Marathe, Secretary of the Department of Industrial Development, Union Ministry of Industry.

Defining the objectives, the Chairman of the Committee, Mr. S. M. Agarwal stated that the Committee had to devise suitable strategies for ensuring that indigenous industry became self-supporting and import dependence was reduced. He added that besides reviewing existing policies and the progress made in import substitution of important manufacturing facilities, including capital goods, and assessing the effect of liberalised industrial licensing, import and export policies, the Committee had to recommend time-bound programme for further indigenisation, greater self-reliance, development of indigenous technology and building of manufacturing capabilities.

Mr. Marathe, in his speech, stressed the need to have a correct perspective of import substitution. Mere substitution was neither feasible nor desirable. As such, the Committee had to identify areas where import substitution would be advantageous and to devise measures to foster production of items which could be import substituted. This meant that a certain direction had to be given to the allocation of available resources, Mr. Marathe added. He further stated that the Committee should submit interim report on the more important aspects.

The policy of import substitution is an integral part of national objective of self-reliance. According to the annual report of the Union Minstry of Industry for the year, 1978-79, during 1976 the gross value of production of Directorate General of Technical Development (DGTD) units was recorded as Rs. 109,000 million. The same has gone up to about Rs. 126,000 million in 1977. The growth registered by DGTD industries works out to 8.4 percent as against 5.3 percent recorded in the General Index of Industrial Production (1970-100). During 1978-79 industrial units borne on the rolls of DGTD are expected to record a growth of around 10 percent. This step-up in production accounts for, besides increase in the items already manufactured in the country to meet the higher level of demand, further import substitution; several items of equipment have been produced for the first time in the country, during the year.

In order to encourage innovations in the field of import substitution, the Board of Awards for Import Substitution, set up in 1966, awards annual prizes to persons and organisations which develop items for import substitution. These awards are announced twice a year on Independence Day and Republic Day. It is estimated that awardees have cumulatively accounts for an annual foreign exchange saving of about Rs. 70 million.

Industrial Production Index Up

The monthly index of industrial production for March, 1979 (Base 1970 =100) stood at 167.4. It was higher than the index for March, 1978 by 5.1 percent.

The growth rate during the first three months of 1979 over the same period of 1978 was 6.4 percent. The growth rate for the twelve months of the financial year 1978-79 over the corresponding period of 1977-78 showed a rise of 7.6 percent.

Compared to February, 1979, the increase in index in March, 1979, is accounted mainly by the sharp increase in production of textiles, electricity, mining and quarrying, transport equipment and basic metal industries against slight decrease in production of miscellaenous manufacturing industries, tobacco manufactures, rubber products and metal products except machinery and transport equipment.

New Rail Coach Building Factory

The Railway Ministry has directed the Integral Coach Factory (ICF) at Perambur, Madras to immediately carry out techno-economic feasibility survey for setting up a new coach building unit in the country.

The ICF has been asked to prepare a detailed project report and also to make recommendations in regard to the location of the proposed unit. The ICF is likely to give its report by the end of the year.

The Working Group set up by the Planning Commission for the Railways' Sixth Plan had assessed the need-

based requirement of about 11,000 coaches for the period upto 1982-83. But the existing capacity with the Railways' production units and workshops and other coach building organisations in the country is only of the order of 7,000 coaches.

Based on the estimated requirement of additional coaches, the need for setting up of a new coach building unit to produce 750 coaches per annum has been accepted by the Railway Ministry.

The production of passenger and non-passenger coaches and electrical multiple units of the Indian Railways is being met at present by three production units within the country, namely, the Integral Coach Factory, Perambur, Madras in the Railway sector; Messrs Bharat Earth Movers Limited, Bangalore under the Department of Defence Production and Messrs Jessops, Calcutta under the Union Ministry of Industry. To a very limited extent, production of narrow gauges, non-standard and other coaching vehicles is being arranged in the Railway Repair Workshops also.

Small Units Get More Steel

Steel supplies to small industrial units through the State Small Scale Industries (SSI) Corporations nearly doubled last year to 332,969 tonnes from 176,187 tonnes in 1977-78. During the current year, supplies are being stepped up further to about half a million tonnes through the SSI Corporations.

Under the specific programme of supplies to the SSI Corporations introduced last year, supplies are made to the Corporations at a concessional price which is Rs. 140 to Rs. 200 per tonne less than the stockyard price and the SSI Corporations in turn are expected to sell steel to the small units at a price which is Rs. 40 per tonne less than the average stockyard price.

During April-June this year, the supply of 100,000 tonnes to the SSI Corporations by the Steel Authority of India Limited (SAIL), according to the allocations programmed earlier by the Iron and Steel Controller, was about 49,000 tonnes more than the supplies made in the corresponding period last year. During the first quarter of 1979-80, supplies to the exporters of engineering goods has also gone up from 34,700 tonnes in 1977-78 to 40,300 tonnes during the current year.

Among the important decisions taken recently to further streamline supplies was the acceptance of the proposal to have a single channel of distribution to SSI units. It has now been decided that except supplies to re-rollers and compact group of industries, all other supplies should be routed through SSI Corporations. It has also been decided that supplies to the North Eastern State Corporations could be allowed from the Calcutta stockyard of SAIL if it was not possible to supply the material from Gauhati or Tinsukhia.

Last year, there was substantial step-up of steel supplies to Small Scale Corporations in almost all the States. in the case of some like Karnataka, and Kashmir Delhi, Andhra Pradesh, Orissa, Tamil Nadu and West Bengal, supplies were more than doubled. About 35,987 tonnes of steel were supplied to SSICs in Punjab last year as against 24,604 tonnes in 1977-78 and in Haryana, despatches rose from 19,712 in 1977-78 to 29,911 tonnes in 1978-79.

Duty Concessions on Copper/Bronze Powder Withdrawn

Copper powder and bronze powder on import attract a statutory rate of customs duty of 120 percent *ad valorem*. However, by a notification duty on copper/bronze powder had been reduced to the level of 75 percent *ad valorem* to facilitate imports into the country.

On representations from domestic producers of copper and bronze powders and keeping in view the increased indigenous production of these goods, the Government of India has decided to withdraw concessional customs duty on these goods and to restore the staturoty level of duty (120 percent *ad valorem)* to protect the indigenous industry. The relevant notification took effect from July 20, 1979.

Development of Machine Tools Industry

Machine Tools can be broadly grouped under two categories viz; (i) metal cutting and metal forming machines and (ii) machines for working on plastic, wood, portable electric and pneumatic tools, die casting machines, wire working machines foundry moulding machines, hydraulic and pneumatic equipment and machine tool accessories etc.

According to the annual report of the Union Ministry of Industry for 1978-79, machine tools are currently being manufactured by 132 units in the public and private sectors with an installed capacity of Rs. 1,165 million in Group (i) and Rs. 435 million in Group (ii) above. The total licensed and registered capacity is Rs. 1,900 million and that covered by letters of intent is of Rs. 110 million.

Machine tools valued Rs. 1,040 million were produced during the year 1977-78 as against Rs. 1,160 million produced in 1976-77. The decline is production during 1977-78 was mainly due to the demand constraint; shortage of

power in major machine tool manufacturing units being the other contributory factor. The demand has since improved as a result of which the production in 1978-79 is expected to reach the level of Rs. 1,200 million with the public sector contributing about 50 percent of the total production. The overall capacity utilisation of industry during the year under review was approximately 80 percent.

Hindustan Machine Tools (HMT), the leading public sector undertaking in the country, represents an investment of Rs. 1,200 million employing over 21,000 persons. It was orginally conceived as a machine tool manufacturing unit but in order to provide cushion against cyclic recession in the demand of machine tools and to make use of its technological skills and meet the demand, wrist-watches, tractors, heavy duty presses, die casting and plastic injection moulding machines, printing machines and electric lamps were included under its manufacturing profile.

HMT is the largest producer of machine tools in the country accounting for about 50 percent of the total production covering a wide range of machine tools. It accounts for the bulk of the production of wrist watches and is likely to emerge soon the leader in the field of tractors. In order to meet the customers needs for sophisticated equipment, the compnay has entered into collaboration with the world's leading manufacturers. This enables the company to telescope their own experience with the customers' requirements in the shortest possible time.

HMT's exports during 1978-79 estimated at Rs. 80 million account for the bulk of machine tool exports. They have also in hand two turn-key projects, in Algeria and Kenya for setting up machine tool manufacturing plants. Their export target for next year is Rs. 840 million.

New items of machine tools involving highly sophisticated technology like numerically controlled machining centres, high pressure extrusion presses, transfer lines modified for specific requirements and turret drilling machines have been manufactured for the first time during the year under review. There are still certain gaps, particularly, with regard to machine tools required for ball bearing industry, gear shaping and grinding, high tensile fasteners and some of the larger size machine tools. These are being encouraged to be taken up generally through diversification.

The bulk of the area of precision machine tools required for tool rooms is currently being imported. A precision machine tools R and D centre is, therefore, being put up in the country to accelerate the development of these machine tools. Similarly, R and D centres or nucleus are being set up for cutting tools and for metal forming technology and accessories. These will be under the Central Machine Tool Institute and Hindustan Machines Tools respectively.

Hydraulic and pneumatic equipment also made a sizeable contribution to the overall production of machine tools during the year under report. In the plastic moulding machinery also, the production has improved.

The industry exported general purpose machine tools worth Rs. 150 million during 1977-78. Apart from export of machine tools, there is increasing possibility of joint ventures and transfer of know-how to other developing countries.

Central Machine Tool Institute (CMTI), Bangalore, has been one of the nodal and important Institutes engaged in research, design and development relating to machine tools including production of prototypes, evaluation of the performance of machines, standardization of machine tools and their components, consultancy to the machine tool industry and development of specific machine tools. The Institute is founded by way of grant but it has also been earning through licensing of its products and consultancy fees. It also provides training courses.

Two precision grinding machines developed by the Institute are undergoing trials. In addition, it has currently in hand the development of prototypes of several machine tools under the programme of National Council of Science and Technology and is engaged in R and D projects relating to specialized areas. A large number of assignments are also taken by the Institute from Indian Standards Institution.

The Institute is in the process of setting up a comprehensive Information and Documentation Centre and another Centre for Numerical Control System and related servicing and training. Optical read outs and profile viewing attachments have also been developed. CMTI would also be setting up a Metal Cutting R and D Division and another for Precision Machine Tools, the former will cover R and D relating to cutting tools and corresponding design aspects of machine tools and the latter to assist the indigeneous development of precision machine tools which are presently being mostly imported.

New Companies Registered

Three hundred and seventy-six companies were registered in India under the Companies Act, 1956 during March, 1979 as compared to 321

companies in the previous month. Of these 376 companies, 371 were limited by shares, three were guarantee companies and two were companies with unlimited liability. The total authorised capital of the 371 compaines limited by shares amounted to Rs. 564.1 million.

Of the 371 companies limited by shares registered during the month, five were Government compa ies—two public limited and three private limited with an authorised capital of Rs. 13 million and Rs. 90 million respectively. The remaining 366 were non-Government companies. Of the 366 non-Government companies, 40 were public limited and 326 were private limited companies with an authorised capital of Rs. 247.7 million and Rs. 213.4 million respectively.

Of the companies registered during the month, the largest number viz., 220 fell in the broad industrial group of "Processing and Manufacture". The highest number of new registration viz., 80 were reported from the State of Maharashtra followed by Delhi, West Bengal and Tamil Nadu with 51, 41 and 41 respectively.

Twenty eight companies, five Government and 23 non-Government had each an authorised capital of Rs. 5 million or more.

Intensification of Mineral Investigations

The Geological Survey of India (GSI) proposes to intensify further its investigation and exploration efforts during the current year to tap reserves of economically exploitable minerals. A total of 147,000 metres of drilling is envisaged for 1979-80 as against the drilling of 120,408 metres last year.

Of this, 50,000 metres will be in the coal sector, 44,00 metres in base metal deposits and bauxite and 28,000 metres set for completion in respect of other non-ferrous minerals.

The Plan budget estimate for GSI during 1979-80 is about Rs. 130.6 million against the budget estimate of Rs. 115 million, and the revised estimate of Rs. 83.4 million, during 1978-79. The Sixth Plan outlay for GSI is Rs. 700 million, which is nearly Rs. 30 million more than the outlay of Rs. 404.3 million during the Fifth Plan.

Significant progress was achieved by the GSI last year. This included the establishment of substantial reserves of copper in the Bar was block of the Khetri copper belt and of one million tonnes of copper reserves with 1.2 percent in copper in the Baleswar area of district Sikar in Rajasthan. Completion of the time-bound East Coast Bauxite Programme led to the establishment of reserves of the order of 1,628 million tonnes of bauxite ore in Andhra Pradesh and Orissa.

The Marine Geology Division of the GSI carried out exploration of the continental shelf. Studies of the Krishna —Godavari prodelta were taken up in the Kakinada offshore areas, as also exploration for diamonds in the beaches and offshore areas of South Andhra Coast and for ilmenite in the black soil of the Ratnagiri offshore areas.

DPCO Helps Bring Down Drug Prices

The erstwhile Union Minister for Petroleum, Chemicals and Fertilisers, told the Ministry's Parliamentary Consultative Committee recently, that following notification of 'leader prices' of life-saving and essential drugs, the prices of such formulations had actually come down, in some cases by as much as 50 percent of the previous prices.

The Minister dispelled fears that the Drugs (Prices Control) Order, 1979, (DPCO), issued on March 31, this year might erode industy's profitability and discourage investment and said that there was no evidence to show that such a thing had happened.

The Minister said that the mark-ups on category I and category II formulations had been fixed at levels which would make life-saving and essential drugs available to the masses at reasonable prices and the ceiling mark-up of 100 percent on category III formulations had been fixed to secure for the manufacturers reasonable returns over the entire range of price controlled formulations.

Replying to some members who maintained that the Drugs (Prices Control) Order deviated in certain specific respects from the announcements on drug pricing in the Policy Statement made in Parliament in March, 1978, the Minister said that there had been no deviation from the Drug Policy Statement and the DPCO embodied decisions of the Cabinet on pricing of drugs.

Members indicated that the Order specified only a reasonable return on net worth in regard to pricing of bulk-drugs, whereas the Policy Statement had mentioned 14 percent return on bulk drugs used in category I and category II formulations ad 12 percent on bulk drugs used in category III formulations.

It was clarified that industry representatives had been clearly informed that in accordance with the stipulations in the Policy Statement, post-tax return on net worth would be 14 percent and 12 percent, as the case may be, while determining bulk drug prices

on the basis of average cost of production of an efficient manufacturer. There was thus no deviation from the Drug Policy Statement in this regard.

Members contended that the Policy Statement did not warrant provisions in the DPCO relating to determination of retention prices, common sale prices and pooled prices.

The Minister clarified that determination of such prices in appropriate situations was part of the decisions of the Cabinet on drug pricing. These decisions had been subsequently conveyed Associations representing the Drug industry.

Members raised doubts whether the provisions for Drug Prices Equalisation Account was consistent with the Essential Commodities Act, 1955.

The Minister explained that the validity of the provision had been thoroughly examined by the Law Ministry and said that similar Equalisation Accounts figured in the Price Control Orders relating to steel, cement, aluminium, etc.

Members contended that while the Policy Statement specified 40 percent mark-up on category I formulations and 55 percent mark-up on category II formulations, the DPCO provided that these shall be ceiling mark-ups for these two categories.

The Minister clarified that there was no inconsistency because the DPCO had taken into account also the stipulation made in the Policy Statement concerning profitability. Mark-ups specified in the Policy Statement had been made sbuject to over-all profitability ceiling.

In this context a member suggested that the ceiling mark-ups of 40 percent, 55 percent and 100 percent for the three price-controlled categories were excessive and should be reduced.

It was explained that the mark-up included, apart from the manufacturers margin, various costs and expenses. Moreover, manufacturers' returns were limited to the profitability ceiling incorporated in the DPCO. There was, therefore, hardly any justification for downward revision of mark-up ceilings.

The Minister agreed to consider further a suggestion that the price-holiday for five years for new bulk drugs produced through original research and development efforts in the country, and not produced elsewhere, may be extended to all new bulk drugs irrespective of whether such drugs had been produced elsewhere or not.

Further Expansion of Banking Facilities

According to the Reserve Bank of India, with the opening of 1,862 new offices during the ten months ended April 1979, the average population per bank office based on the mid-year population estimate) has come down to 21,470 as of April 1979 from 22,520 in June 1978. The average at the end of June 1969 was as high as 65,000.

Consolidation and reduction of regional disparities with special attention to unbanked centres marked the branch expansion activities of commercial banks during the year ended June 1979. Thus, out of the 1,862 new branch offices opened during the ten months from July 1978 to April 1979, no fewer than 1,216 offices were opened in unbanked centres. The total number of new bank offices opened since July 1969 and upto the end of April 1979 comes to 21,760, of which 11,213 offices have been opened in unbanked centres and 10,547 offices in banked centres.

The 1,862 new bank offices opened during the ten months ended April 1979 included 454 branch offices opened by Regional Rural Banks—428 offices in unbanked centres and 26 offices in banked centres. These RRBs have so far established 1,861 branch offices.

Rural centres (with a population of less than 10,000) continued to account for a significant share of the new bank offices opened during the year 1978-79. The number of rural bank offices went up from 11,802 in June 1978 representing 42.1 percent of the total 28,016 offices to 13,064 in April 1979 representing 43.7 percent of the total 29,874 offices. At the end of June 1969, there were barely 1,832 rural bank offices representing 22.4 percent of the total 8,262 offices.

Top priority was accorded to the opening of bank branches in the 694 community development blocks in the country identified as unbanked blocks in order to ensure that each block was provided with at least one commercial bank branch by the end of June 1978. This objective has been achieved barring only a few blocks where the banks have not been able to open offices because of lack of basic infrastructural facilities. Even in these blocks the matter is being actively pursued with the banks concerned.

The pace of branch expansion has been well sustained in the relatively underbanked States during the past year. Thus, between June 1978 and April 1979, the number of bank offices increased by 248 in Uttar Pradesh, 141 in Bihar, 138 in Madhya Pradesh, 81 in West Bengal, 53 in Orissa and 27 in Assam.

A comprehensive branch licensing policy covering the three-year period 1979 — 1981, formulated by the Reserve Bank in August-September 1978, envisages the issue of about 6,500 licences to commercial banks for opening branches in the rural and semi-urban areas so as to ensure provision of banking facilities in centres where such facilities are urgently needed. In accordance with the guidelines laid down in the new policy, the work of drawing up a detailed programme of branch expansion on a district-by-district basis for each State/Union Territory has been taken on hand. The State Governments have indicated the centres in the rural and semi-urban areas of deficit districts where they would like the bank offices to be opened during the three-year period having regard to the needs of developmental programmes. On this basis and after discussions with the Governments of some States, allotment of 1,675 centres to various banks in ten States/Union Territories has been finalised so far and the allotment of the remaining centres in these and other States/Union Territories is being finalised.

In keeping with the objectives of policy, the commercial banks have been endeavouring to ensure an increasing flow of funds to priority sectors—agriculture, small-scale industries, transport operators, professionals/self-employed persons and retail trade/small business. The total advances to these sectors went up from Rs. 39,590 million in December 1977 to Rs. 51,370 million in December 1978; priority sector advances in June 1969 totalled Rs. 5,040 million. The share of these sectors in total bank credit as on the last Friday December 1978 was 50.5 percent, as against 26.7 percent in December 1977. The corresponding figure for June 1969 was 14.0 percent.

Export is one of the sectors which is receiving good support from banks. The total export credit at the end of December 1978 was Rs. 13,610 million against Rs. 11,570 million in December 1977 and Rs. 2,580 million in June 1969.

Growth of deposits with commercial banks also registered a significant expansion during the year under review. Total deposits as at the end of April 1979 stood at Rs. 269,930 million against Rs. 224,370 million a year before. The per capita deposits in April 1979 were Rs. 422, as against Rs. 86 in June 1969.

Science and Technology

Additive Colour Viewer Developed

A multispectral additive colour viewer has been developed, for the first time in India, at the National Remote Sensing Agency (NRSA) at Hyderabad. This will be helpful in analysing multiband remotely sensed photographs. While the human eye can distinguish only a few grey levels, it can distinguish a large number of colours on the basis of their hue, value and chroma. Additive colour viewer system allows introduction of colours to black and white multiband imagery, enabling the human interpreter to interact and discover more facts from the image precisely and rapidly.

Multiband black and white pictures are obtained from Landsat satellites or multiband aerial or ground camera. These pictures are projected on to the screen of the additive colour viewer through blue, green and red colour filters. These are registered on to the screen by adjusting various optical parameters of the system. The output picture registered is a colour version of the input black and white imagery.

The additive colour viewer has four channels. Each channel is provided with the light intensity control to vary the intensity of light. This facilitates different colour combinations leading to better and accurate interpretation of the image. The colour composite can be either of false colour to provide added contrast or of natural colour as seen on the ground. Provision is made to photograph the colour composite on either colour transparency or colour print paper. Precision mechanical systems are provided for proper mounting, registration and uniform illumination on to the screen.

The equipment is useful for analysing and interpreting aerial multiband photographs and Landsat satellite imagery for various natural resources like agriculture, soils, forestry, hydrology, geology, minerals and land use. The equipment will serve as an important aid in the Photo Interpretation Cells of State and Central Government departments. The equipment is also useful as a multichannel imagery viewing system in academic institutions and national laboratories for work related with image analysis.

Special Furnances Developed at CEERI

The Central Electronics Engineering Research Institute (CEERI) Pilani, has designed and fabricated a laboratory type furnace which can deliver 1.2 kW of rf power. The model is comparable to the imported furnaces of this type. The unit is self-contained and free from water supply requirement. It can serve as a useful appliance in metallurgical laboratories, commercial and industrial analytical laboratories, universities and teaching institutions. The furnance can be used

for carbon and sulphur determination. It enables complete burning of all types of steels, alloys and low carbon materials. It is useful for pyrolysis, ashing, fusing and moisture determination. The furnace consumes only 160 W when used as a standby and 2 kW at full output. No water or forced cooling is required. The other main features are : time saving operation, accurate control of temperature, cool operation for maximum comfort and efficiency of operating personnel, heavy duty construction, full safety, etc. The equipment can be manufactured in the small scale sector. At present, furnaces of this type are being imported.

Rf induction fruances have the advantages of enabling the attainment of high temperatures in a short time, low operating and maintenance cost convenience and versatility. Such induction furnaces are rapidly replacing the resistance furnaces in which silicon carbide heating tubes require frequent replacement.

The Institute also developed a 5 kW induction heater, which can be emp'oyed for brazing and soldering in air or controlled atmosphere, hardening, forging, upsetting and blending melting, annealing, seam welding, shrink fitting, sintering, etc. The heater is also useful for such purposes as glass to metal sealing, zone refi. ing, crystal growing, high temperature plasma generation, degassing and firing of electronic valves, exiting gas discharge tubes, heating metals in controlled atmosphere or vacuum, etc. The demand for these heaters is being met through indigenous production and imports.

Plant Tissue Culture Project

National Chemical Laboratory (NCL) at Pune has developed a method of vegetative propagation of high yielding cabbage based on tissue culture technique. Cabbage seedlings, from two Japanese hybrid varieties were raised by micro-propagation methods. Large scale cultivation trials are in progress at the Nimbkar Agricultural Research Institute (NARI) at Phaltan near Pune, to determine the economic feasibility of the method.

The main objectives of plant tissue culture project are the application of tissue culture technique for rapid multiplication of plants and trees which grow slowly or which do not breed tree by conventional methods; and elimination of virus diseases from economically important plants. With this technique it is possible to isolate superior mutants and grow immature hybrid embryos which remain sterile if allowed to mature on trees.

Tissue culture technique has been applied for developing a mosaic-free sugarcane strain. Field trials are in progress at the NARI for obtaining a sufficiently large number of seedlings to plant a few acres under this sugarcane for comparison of yields with other strains.

Methods for rapid multiplication by tissue culture have been developed for turmeric, teak and Eucalyptus citriodora. The normal multiplication rate of turmeric by conventional methods from one rhizone is five to ten per year. A method was standardised for the rapid multiplication of two promising ew varieties of turmeric which yield 200,000 plants from a single rhizone in one year. Seedlings obtained by tissue culture have been transferred to the field in NCL and at the Turmeric Research Station at Sangli and are being tested for their growth and yield in comparison with conventionally grown plants of these two varieties.

A method of multiplication of teak by tissue culture from young seedlings was standardised which gave 1,500 seedlings from one seedling in one year. This method was later extended to buds from four year old trees. Work is now in progress in collaboration with the Forest Development Corporation of Maharashtra on the growth and multiplication of buds from 100 year old elite trees from Chandrapur District.

A rapid multiplication method by tissue culture was also developed for Eucalyplus Citriodora Seedlings which gives about 7,000 seedlings from one seedling. The extension of this method to mature trees which give a high yield of essential oils is being studied.

Indo-Soviet Industrial Cooperation Forges Ahead

The recent Protocol and the Agreement on economic cooperation, signed at the conclusion of the Fifth Session of the Indo-Soviet Joint Commission in Moscow in June, 1979, mark a major step forward in the cooperation between India and the USSR in the economic, scientific and technological fields. This cooperation started over two decades ago with the setting up of the Bhilai Steel Plant which still continues to be the pace-setter for the Indian steel industry. It was the first concrete manifestation of the joint endeavours that the Indo-Soviet Joint Cnmmission has since been striving to promote. The content and scope of this cooperation continues to be deepened and extended so that a stage has now been reached where the intention is to take the maximum advantage of the natural resource endowments of the two countries,

which leaves room also for the concept of international division of labour.

Finalisation of the Agreement on the Visakhapatnam Steel Plant, which was signed in Moscow during the visit of the then Prime Minister India, was in a sense the successful culmination of the steadily growing cooperation between India and the Soveit Union in the field of ferrous metallurgy. Briefly, the Plant will have an ultimate capacity of 3.2 million tonnes—1.2 million tonnes during the first stage of construction—and it will incorporate the latest technological advances made in the steel sector, particularly in the blast furnace and coke-oven areas. Metallurgical and Engineering Consultants (India) Limited (MECON) will sign a collaboration agreement with the Soviet Organisation, GIPROMEZ, for the manufacture of metre high coke-oven battery, which is the most modern technologically. This may set the technological trend for the future steel plants as well.

A very tight time-schedule has been drawn up for the implementation of this project.

It is expected that the first stage, namely, the production of 1.2 million tonnes of steel, will be completed in four years from the date of the actual commencement of work on the Vizag Steel Plant, six years in all for completion of the second and the final stage. And if India can do it, this will compare very favourably with the international standards in the setting up of steel plants at greenfeld sites. And even in the most advanced countries they cannot do it faster than that. India can now do it for two reasons : (a) the country now has, a set of managers who have mastered fully, through expereience, the modern technique of project management and construction; and (b) In the past lot of delays had taken place due to non-availability of equipment from indigenous sources. But it is felt that even indigenous manufacturers have gained through experience and in view of the availability of foreign exchange, in case there is likelihood of delay in some sectors, import of that equipment will be possible at short notice. These two factors explain the implementation of the Kudremukh Iron Ore Project absolutely on schedule. In the first place, delay in the supply of equipment in the past was also necessarily a price which the country had to pay for achieving self-reliance. Now a stage has come where the manufacturing technology for most of these items has been fully mastered.

On the question of investment, the total investment on this project when it is fully completed, including the infrastructural facilities, will be Rs. 25,000 million. This includes infrastructural facilities such as requirements of railways both in laying capacity and the rolling stock and the development of mines. If investment on the infrastructural facilities is excluded then the investment per tonne of capacity comes to just over Rs. 6,250 which is what the present investment pattern in other countries is. In other words, due to the various advantages that the country now has, it will be possible to keep to the time-frame which has been indicated and it will be possible also to keep investment cost lower than what it would be in some West Asian, South-East Asian countries, and even in some of advanced nations.

The recent Agreement lays down the broad framework for the various steps which have to be taken for the implementation of the Vizag project and the Steel Authority of India Limited (SAIL) are to issue a Letter of Guarantee to the Soviet authorities so that they can start work on detailed engineering and update the Detailed Project Report (DPR) imediately thereafter. In fact, a lot of work has already been done on this in anticipation of the final Agreement and the representatives of the Dastur and Co., who are the Consultants for the project, were recently in Moscow in this connection. It would be possible to update the Project Report by April, 1980. Immediately after that, the division list of orders for indigenous manufacturers and the Soviet agencies will be finalised. The main criteria in this will be to ensure that the deliveries of supplies are made according to the specifications laid down at prices which are competitive and are within the time-frame in which they are required. The Project implementation has been planned in a manner which will make sure that detailed drawings, pipe-laying and the like will be available within 5 months, so that the actual work can also start by that time. This is how the first stage will be completed in 4 years and the completion of the second stage in 6 years. Arrangements for power and water supply acquisition of land rehabilitation of displaced persons and other measures have already been settled with the State Government authorities. All necessary steps have been taken to ensure that there is no hold-up on the project. Regarding credit facilities from the USSR, the earlier proposal for the project on a production compensation basis meant that equipment and other material that would be imported from there, would be partially paid for through the supplies of end product to the Soviet Union. Since the demand for steel has gone up tremendously, it was felt that it would not be possible to spare any of the end products

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perhaps even after 2 decades. Therefore, India was able to persuade the Soviet authorities not to take back anything from it. Instead, additional credit for the implementation of the project was sought besides the 250 million roubles that are already available, to which they have agreed for use in this project.

Besides the creation of new capacity, the cheapest method of getting additional capacity will be to expand the existing capacity. Agreement has thus been reached on cooperation to expand Bokaro from 1.7 to 5.5 million tonnes. The productivity of Bhilai Steel plant will also be raised, through technological innovations with the comparatively lower investment and this is already being done in collaboration with the Soviets. The report on its further expansion has been evaluated by SAIL and their comments have been passed on to the Soviet agencies. And it will take at some time for a final decision to be taken in this regard. An agreement has also been reached that the SAIL and the concerned Soviet organisation will undertake jointly some research and development (R&D) projects, and cooperation in this field will result in a major breakthrough.

In the field of non-ferrous metals, work on the feasibility report for the proposed alumina plant to be set up with Soviet assistance in Andhra Pradesh is nearly ready and the final report on this is expected soon. This will include some suggestions made by the Indian team which went to Moscow recently. In connection with bauxite and alumina, a suggestion made by the Indian team, after the Joint Commission had finalised its deliberations, was to enter into a long-term arrangement with the Soviet Union, may be for a period of 15 years—for the supply of bauxite and alumina from this new plant in exchange for the supply of additional quantity of crude oil and coking coal from the USSR. The response to this suggestion was positive and this is likely to be considered favourably. As is known, the Soviets are developing a new coking coal mine in Siberia at a place called Yakuti and this is being developed primarily for supply of coking coal to Japanese steel industry. It appears reasonable to expect that the Soviet Union will be able to supply some coking coal from this region to India also. This will, from India's point of view, be an attractive proposition since, according to the proposal, bauxite and alumina will be sent from the port of Visakhapatnam and coking coal many come via the same port. India can have more or less a captive fleet of carriers for transportation of bauxite and alumina, and of coking coal in the reverse direction. The matter may be pursued with the Soviet authorities in a systematic manner, because if this develops, it will open up new vistas for economic cooperation between the two countries.

Coming to heavy engineering, there were a couple of important developments. For instance, the Soviet side more or less agreed to place orders on the Heavy Engineering Corporation (HEC), Mining and Allied Machinery Corporation (MAMC), and other units set up with Soviet assistance for equipments, structures and if this goes through, the total value of the orders may be about Rs. 4,000-4,500 million to be supplied over a span of 5 years. This would mean an annual average of Rs. 800 to 900 million. This is a very substnaital load on the engineering units. If this is considered, along with the additional load which will automatically be generated through the Vizag Steel Project, the indigenous heavy engineering units will be adequately loaded for the next few years.

Another important area is the setting up of a Design Institute at Ranchi. This has already been set up. This Institute lays down the design of equipments for the metallurgical plants like blast furnances, coke oven batteries. An Agreement is there between this Design Institute at Ranchi and the Soviet Organisation which is internationally well known. Third country projects and the supply of some equipment from India for projects being set up with Soviet assistance were discussed. The Soviet Union wants to add a new dimension to this. They wanted India to come in as a partner in third country projects being implemented with Soviet help. Civil works construction, erection of equipment, structures and three such projects have been identified, which will soon be finalised. By the end of this year, some suitable arrangements in this direction will be made. Participation in such projects is to the countries mutual advantage, because while the Soviet Union can provide technological inputs and sophisticated items of equipment, the actual organisational capabilities for doing the civil works and the managerial competence can be supplied by India. These developments taken together will make Indo-Soviet joint efforts highly competitive.

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economic and commercial news

News Highlights

India to Train Vietnamese Scientists

India will train fifteen Vietnamese scientists in survey techniques, railway technology, information sciences, water resource management and research in drugs and medical plants during 1979-80. Besides, ten Indian experts will be deputed to Vietnam for identifying areas of cooperation in water management, pollution control, standardisation, meteorology, traditional herbal remedies, highway engineering research, and drugs from plants and agricultural waste. India will train Vietnamese railway personnel in the field of coach building, diesel locomotive production and sophisticated signalting and telc-communication systems. (Facing Column).

Indo-Algerian Research Cooperation

India and Algeria will initiate cooperative research projects in the fields of solar energy, nutrition, medical research, food technology and agricultural sciences. Algeria has also shown interest in acquiring India-made scientific instruments and equipments for its institutions.

(*Contd. on page* 2)

Export Performance and Potential

Strengthening Economic Cooperation between India and Vietnam

India will train 15 Vietnamese scientists in survey techniques, railway technology, information sciences, water resource management and research in drugs and medicinal plants during 1979-80. Besides, ten Indian experts will be deputed to Vietnam for identifying areas of cooperation in water management, pollution control, standardisation, meteorology, traditional herbal remedies, highway engineering research, drugs from plants and agricultural waste.

A programme of co-operation was signed recently in New Delhi by Prof. M. G. K. Menon, Secretary, Department of Science and Technology on behalf of India and Mr. Le Khac, Vice-Chairman, State Commission for Science and Technology on behalf of Government of Socialist Republic of Vietnam.

The Vietnamese scientists will be trained in techniques of satellite photo interpretation, sea bed geology and resources, and techniques of analysis of bauxite ore. In railway technology, they will cover technology of carriage fabrication, organisation in the production of diesel engines, management and exploitation of automatic and semi automatic signalling system and railway wire communication lines.

It was agreed that the next meeting between Indian and Vietnamese scientists will be held in Hanoi in 1980.

Spices Exports Touch New High

India's exports of spices and spice products scaled new peak during 1978-79. This is the sixth consecutive year when spices exports have registered an all time record. The exports swelled to 99,292 tonnes of spices valued at Rs. 1609 million during the period as against 73,861 tonnes valued at Rs. 1401.9 million in the preceding year, thereby reflecting a marked hike both in terms of quantity and earnings.

Coir Exports Up

India's export of coir and coir products have gone up considerebly. The country's exports of these products during 1978-79 were over Rs.258.9 million, as compared to exports worth Rs. 239 in the previous year. This is Rs. 19 million more than the exports effected in the previous year. The items of exports included coir fibre yarn, mats , mattings, rugs and carpets and rubberised coir. The main importers of Indian coir products include France, Britian, Italy, United States, Canada, Australia, New Zealand and Japan.

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The programme of co-operation emerged from the detailed discussions which the delegation had with Prof. M.G.K. Menon and representatives of several Indian scientific institutions on widening of S and T co-operation between the two countries.

Co-operation between the two countries in the field of railways, particularly, in regard to training of Vietnamese railway engineers and technicians on the Indian Railways was also discussed in New Delhi recently, when a high level three member delegation from Vietnam led by Prof. Le Khac, for Science and Technology, met the Chairman, Mr. M. Menezes and other Members of the Railway Board.

The Chairman, Railway Board, assured the Vietnamese delegation that all facilities would be provided for the training of Vietnamese personnel. To start with, five persons will be trained in the current year and another five in 1980 in the field of coach building, diesel locomotive production and sophisticated signalling and tele-communication systems.

The Vietnamese delegation also indicated that they will be approaching the Indian Railways for the services of Indian experts to be deputed to Vietnam for assisting the Vietnamese Railways in their rehabilitation and modernisation programmes.

Welcoming the delegation, Mr. Menezes said that India was willing to share expertise and equipment with Vietnam. He also mentioned that the Union Ministry of Railways have set up two public sector undertakings, Rail India Technical and Economic Services and Indian Railway Construction Company. While the former renders consultancy services in India and abroad in all fields of railway technology, the latter undertakes execution of railway projects of all types on turnkey basis. During the past few years, the two organisations have completed a number of consultancy assignments and projects in developing countries in Africa, Middle-East and East Asia.

The Integral Coach Factory at Perambur, Madras, has an order for 50 metre gauge coaches for Vietnam. These have been planned for manufacture during the current financial year.

Indo-Algerian Cooperative Research Projects

India and Algeria will initiate cooperative research projects in the fields of solar energy, nutrition, medical research. food technology and agricultural sciences. Algeria has also shown interest in acquiring India-made scientific instruments and equipment for its institutions. These are the highlights of the record of discussions signed recently in New Delhi by Dr. Djmil Benbouzid, Director of Scientific Research, Ministry of Higher Education and Scientific Research on behalf of Algeria and Dr. P. J. Lavakare of the Department of Science and Technology on behalf of India.

Dr. Djmil Benbouzid led a seven member delegation on a 13-day visit to this country. The visit was the follow-up of the agreement on technical and scientific cooperation between the two countries signed in June, 1979. The agreement provides for expanding area of co-operation in science and technology between the two countries through exchange of

information and visits and initiating joint research projects.

The Algerian delegation has shown interest in utilising the services of 1500 to 2000 Indian professors and associate professors over a couple of years for Algerian universities and research institutions. A programme of action on this has been worked out after detailed discussions with the concerned ministries.

The possibility of setting up of research and teaching institutions in Algeria with the help of India was mentioned by the delegation. The delegation indicated that the possibility of translating Indian textbooks and other scientific publications in their language could be explored.

A View of IITF'79

Pragati Maidan in New Delhi is now astir with activity, getting ready for the first India International Trade Fair (IITF) to be held here from 10th November to 9th December, 1979. Participation has been confirmed by 21 countries and proposals are in the pipeline from several others. The countries which have already booked space are Australia, Bangladesh, Britain Bulgaria, Brazil, China, Czechoslovakia, Federal Republic of Germany, France, German Democratic Republic, Hungary, Indonesia, Iraq, Japan, Poland, Romania, Syria, United Arab Emirates, USSR, Yugoslavia and Zambia. Of these countries, China, GDR and Japan are participating in a big way putting up their independent pavilions, while others will be housed in the Hall of Nations and the adjoining permanent structures. Apart fom the foreign countries which will be offering their national participation, some individual foreign business and industrial enterprises are also showing interest in direct participation in the fair. It is likely that most of them will participate.

Among the various exhibits presented by the foreign participants, there will be a range of sophisticated machinery and capital equipment matching the needs of India for her programmed industrial growth. The liberalisation of imports of capital goods by actual users will enable Indian firms to purchase some of the machinery items which will be put on display. Imports and customs arrangements for foreign participants have been considerably simplified.

The sale of exhibits will be permitted payment of duty against a valid import licence within the bond period allowed for export. This facility will also be available to such actual users as are eligible to import the same goods under Open General Licence. Import items such as printed materials, pamphlets, literature pertaining to exhibits, will also be exempt from import trade control procedure. Also there is provision of a special Fair Quota for foreign exhibitors for disposal of their exhibits at a specified sacle.

The national segment of this fair will also be very impressive. As many as 23 States/Union Territiries will be participating in this fair. The States which already have their own permanent exhibition structures are making the additions and alterations, while the others have started the construction of their permanent pavilions. Only some Union Territories will set up their stalls in an existing hall in the exhibition complex.

Twelve Central Ministries and Departments are also taking part in this fair. Among them are Defence Production, Railways, Shipping and Transport, Tourism, All India Handicrafts Board, National Building Organisation, Indian Space Research Organisation and Department of Atomic Energy.

The theme of the fair is "Trade for Prosperity". The theme concept is being developed with the assistance of National Institute of Design, Ahmedabad. The projection in the theme pavilion will highlight the achievements and capabilities in the field of industry. science and technology, future propections and potentialities and transfer of technology. Space technology and the latest satellite Bhaskara I will be depicted through models to signify India's technological advancement.The projection will be done mainly through audio visual techniques.

Also taking part are 22 public sector undertakings representing the entire gamut of the industry from handicrafts and village industries to sophisticated electronic and earth moving equipment and steel.

Among the participants are 20 Export Promotion Councils and Commodity Boards who will project the country's achievements in the export sector, in traditional as well non-traditional engineering and chemical products. Among the participants from the private sector are major industrial houses, some of whom will build up their separate pavilions. Apart from these private firms participating independently, a large number will be displaying their products in the collective display arranged by the State Governments or the Export Promotion Councils.

The Fair will be held at Pragati Maidan which has all the basic infrastructural facilities such as railway siding, ware-house and customs clearance centre, banks, telecommunication, etc. Provision has been made for Railway freight concession for the transport of exhibits within the country and concessional travel by rail for visiting the fair in organised groups.

An Information Cell has been set up by the Trade Fair Authority to disseminate current facts about all aspects of the fair including the facilities that are being offered to participants and visitors.

The fair is being held at the height of the tourist season and it is expected that the fair will attract a large number of foreign visitors. Besides, the Trade Fair Authority is organising the visit of buying delegations from abroad. Business visitors and other foreigners will constitute an important part of the total number of 3 million visitors who are expected to come to India International Trade Fair.

Orders for Indian Carpets at ICFCE

Spot orders worth over Rs. 6 million were booked by Indian firms at the International Carpet and Floor Coverings Exhibition (ICFCE)held in Paris recently. India's first ever participation in this exhibition was organised by the Trade Development Authority.

The flat-weave carpets achieved remarkable success while the response to the hand-knotted oriental rugs was in low key. Medium-low-category knotted carpets fared well. Follow-up action is reported to have resulted in the procurement of further orders by some firms the details of which are awaited.

Held every year since 1967, the International Carpet and Floor Coverings Exhibition is visted by importers, wholesalers, furniture dealers, department stores, decorators, architects, carpet layers, railway companies etc. The products displayed at the exhibition included rugs, fitted carpeting, matting, skins and furs, floor coverings like linoleum, rubber, plastics and textiles, wall-papers, mural tapestries, curtaining, underleft and insulating underlays, laying accessories such as adhesives and trimming products, laying tools and accessories, metal edging, display material and maintenance, cleaning and restoration equipment and products.

Promoting Tea Exports

The export of tea from India during 1978-79 is estimated around 180 million kg. valued at Rs. 3,600 million, according to the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for 1978-79. This is, however, lower than the export of tea during 1977-78 which was 220.5 million kg. valued at Rs. 5,553.2 million but higher than the export worth Rs. 2931.4 million during 1976-77. Tea production is estimated at 570 million kg. in 1978 compared to about 560 million kg. in the previous year.

The report says that the policy to encourage exports while ensuring availability of sufficient quantity of tea for domestic consumption was continued during 1978-79. Initially, having regard to production prospects as then envisaged, an export ceiling was kept at 200 million kg. On a careful review of the production prospects, the domestic prices and the export front, the export duty of Rs. 5 per kg. was reduced to Rs. 2 per kg. from September 7, 1978. It was sub sequently removed totally

One of the encouraging features of the year was the substantial growth of earnings on account of value-added items. As against Rs. 200 million in April-October, 1977, the export earings on account of packet tea tea bags, and instant morespall tea, exc eded Rs.500 million during April-October, 1978. By the end of January, 1979, the target for the fiscal year 1978-79, viz Rs. 600 million had been crossed. In order to give further fillip to the exports of these items, import of the tea bagging machines has been brought under Open General Licence (OGL) and the import duty on it has been reduced to 25 percent. Further, as an export ptomotion, measure, excise duty at the rate of Re. 0.05 per packet tea meant for export has been removed.

During the year under review, the Tea Board continued to provide financial assistance for the development of tea plantation and tea factories. Under the Tea Plantation Finance Scheme, which provides for long term loans for carrying out replantation, replacement and extension of tea areas, an amount of Rs.2. 904 million was disbursed during April 1978—January 1979. The quantum of loan under the scheme has been recently raised from Rs. 11,250 per hectare to Rs. 20,000 per hectare for plain gardens, and Rs. 13,750 per hectare to Rs. 25,000 for hill gardens.

Tea Machinery and Irrigation Equipment Hire Purchase Scheme continued to receive good response and the disbursement during April-November, 1978, totalled Rs. 15.572 million.

The Replantation Subsidy Scheme, introduced in October 1968, is being continued for another five years from October 1978. The disbursement under this scheme upto January 1979 was Rs. 3.049 million.

The Tea Board has drawn up the following schemes to meet the requirements of small tea growers:

(i) Proposal for setting up of 2 clonal tea nurseries for raising 500,000 clonal tea plants at Kundah and Gudalur cooperative tea factories;

(ii) scheme for plant protection for small tea growers in the Nilgris in Tamil Nadu;

(iii) schemes for imparting training to small growers; and

(iv) scheme to set up demonstration plots and clonal multiplication units.

For the introduction and encouragement of tea cultivation in non-traditional areas like Arunachal Pradesh, Nagaland, Manipur, Sikkim, Meghalaya, Mizoram etc., schemes for grant of loan subsidy to the entrepreneurs for undertaking tea cultivation have been drawn up. A sum of Rs. 1 million has been provided in the financial year 1978-79 and Rs. 2.5 million in the next financial year for this purpose.

Undertaking scientific and technological research on tea is a statutory function of the Tea Board. The Board is providing financial assistance to two premier research associations in the country, namely, Tea Research Association and UPASI's Scientific Department. Ad-hoc grant-in-aid towards the following schemes, not included in the programme of research of the above research institutions was also given :—

(i) Pilot Plant Project on Instant Tea at the Central Food Technology Research Institute, Mysore;
(ii) grant to Assam Agricultural University, Jorhat;
(iii) improvement of tea culture in the hilly areas of Himachal Pradesh;
(iv) research project on alternative packaging material for tea at the Indian Institute of Packaging, Bombay;
(v) scheme of research on utilisation of tea sweepings at the Calcutta University; and
(vi) pilot plant project on instant tea at Tocklai.

The object of Tea Research Centre set up at Darjeeling is to evolve a method of increasing the production of fine Darjeeling teas. A major part of the construction of laboratory building of the Centre has been completed. Arrangements have also been made for acquiring scientific equipment required for this Research Centre, and the Centre will come into operation as soon as these are installed.

The Board continued to render necessary assistance to the tea industry in the matter or procurement, distribution and movement of various inputs like fertilisers, coal fuel, oil pesticides, cement and iron and steel etc. The overall input position was satisfactory during the year except in the case of supply and movement of coal and cement.

With a view to enabling Indian tea to face competition in the foreign markets from teas produced in other countries as well as the competition from other beverages in affluent countries, promotional activities by the Tea Board had been directed in the two lines, viz., generic promotion and uni-national promotion.

The activities in the field of generic promotion were aimed at increasing the overall consumption of teas as a beverage. Such activities were undertaken through the Tea Councils functioning in eight countries, in collaboration with other tea producing countries and the local tea trade in accordance with the agreed plans and programme. The basic objective of uni-national promotion has been to create and project a favourable image of Indian tea with a view to increasing consumption of Indian tea in overseas markets. Such activities were undertaken through the Board's six overseas offices at London, Brussels, Cairo, Kuwait, Sydney and New York. Promotional activities in countries not covered by Board's office abroad were carried out by the Tea Promotion Directorate at headquarters with the cooperation and assistance of Indian Missions abroad.

The tea Board rendered promotional asistance to reputed foreign packers to popularise their identifiable Indian tea packs and to Indian exporters for popularising their products in overseas markets, especially in the growing ones, like West Asia and North Africa.

Along with other major tea producing countries, the efforts for bringing stability in world market prices for tea continued at the FAO and UNCTAD forums with the ultimate object of arriving at a long-term agreement on tea between exporting and importing countries. Various aspects of these problems are being considered by the Working Party set up by the FAO for the purpose.

The agreement to establish the International Tea Promotion Association was ratified by India on November 1, 1977. The Agreement came into force from February 23, 1979, after the signing and ratification by the requirsite number of countries, qualified to participate. With the establishment of this Association, it would be possible for the tea producing/exporting countries to coordinate measures for promoting consumption of tea and maintain international tea prices at remunerative levels.

Industrial Growth and Diversification

Production of Stainless Steel Tubes

The Stainless Steel Tube Plant of the Nuclear Fuel Complex (NFC) at Hyderabad which went into production in April last year, has produced 35 tonnes of seamless tubes valued at Rs. 2.9 million. The major users of the

sta nless steel tubes are Oil and Natural Gas Commission, oil refineries, fertilizer plants and boiler manufacturers.

The process involved in this plant consists of machining stainless steel rounds to the desired sizes in the machine shop. The rounds are then centre-drilled with the deep hole drilling machine. These extruded tubes are in sizes upto 70 mm outer dimension. For producing tubes of smaller sizes the plant utilises cold pilgering of the hot extruded tubes on two pilger mills. Greater care is taken in testing them under pressure hydrostatically before they are despatched to the market.

An ultra-sonic machine is also being procured at a cost of Rs. 1.33 million to meet the stringent specification demands of Bharat Heavy Electricals and Power Projects Engineering Division (PPED) of the Department of Atomic Energy.

The primary task of NFC is the production of fuel for the country's nuclear plants. It undertook the manufacture of seamless stainless tubes with the twin objectives of achieving import substitution and producing high quality products indigenously. The spare capacity of the 3,780 tonne horizontal extrusion press was utilised for the purpose. The press was originally intended for production of seamless zircalloy tubes required by the Nuclear Power Plants.

The estimated cost of diversification of the plant was Rs. 124.5 million with a foreign exchange component of Rs. 59.9 million. The plant is designed to produce 2,000 tonnes of seamless stainless steel tubes per year. Of this, 800 tonnes will be sold as hot extruded tubes and 1200 tonnes as cold pilgered.

Output of Essential Medicines Up

The new drug policy of the Government of India aims at self-sufficiency in production and supply of essential medicines and life-saving drugs to the people at reasonable prices.

Prior to independence, life-saving drugs were not available to the poor and common man. Some four decades back, penicillin was beyond the reach of even the rich in the country. Most of these drugs were either imported or manufactured from imported basic drugs mainly by foreign firms, who had interests confined to profit-making. Government of India was alive to the situation and entered into an agreement with the USSR for setting up of plants for manufacture of antibiotics, synthetic drugs, surgical instruments, and phyto-chemicals, etc. essentially required to put India on a healthier footing.

On April 5, 1961, the Indian Drugs and Pharmaceuticals Ltd. was incorporated with its registered office at New Delhi and a decision was taken to instal three plants for the manufacture of (a) synthetic drugs at Hyderabad;(b) antibiotics at Rishikesh; and (c) surgical instruments at Madras.

The plant at Kukatpally near Hyderabad is the largest of its kind in India. The civil work on the plant, which started in 1964, was completed around 1967 and commissioning of various products started in 1968. All the drugs and intermediates are manufactured from the basic raw materials.

From an initial designed capacity of 850 tonnes per annum, the factory progressed to produce nearly 1697 tonnes.

This expansion was mainly brought out by introduction of new products to the original product-mix. As against sixteen drugs given by the Soviet collaborators, the plant is today producing 27 basic drugs. The development of these additional drugs is due to the research and development effort of scientists and technologists of the IDPL.

Today, IDPL, Hyderabad, is contributing as much as 35 percent of the total production of bulk drugs in the country.

The plant maintains a full-fledged formulations unit with a production capacity of over 2,000 million tablets per year. Some of the formulations include analgesics and antipyretics, vitamins, sulphas, anti-TB drugs, tranquilizers, anti-bacterial, anti-diabetic and anti-malaria drugs. There are also contraceptive and veterinary products.

IDPL products have established a base in medicine market and are in great demand. The sales figure which was Rs. 6.09 million in 1978-79, shot up to Rs. 381.5 million in just nine years. On the completion of the second phase expansion, the sale turn-over is likely to increase to Rs. 777 million by 1978-79.

The year 1972-73 was of great significance to IDPL, Hyderabad. During this year, the plant for the first time earned a net profit of Rs. 3.08 million and since then, it is continuously earning profits. The profit during 1977-78 is put at over Rs. 60 million.

Ever since the plant was commissioned in 1968, efforts were on the move to effect import substitution and to introduce indigenous element. By 1972-73, the plant was able to substitute indigenous raw material on 13 items saving foreign exchange upto Rs. 7.78 million. By 1975-76, the savings went up by 29.70 million over 16 items and by 1978-79, the plant hopes to keep its dependence upto only 5 percent of its raw material requirement. It is hoped that by 1978-79

the plant will require about 100,000 tonnes of raw materials of which 95,000 tonnes will be available indigenously and only 5000 tonnes will be imported. This certainly speaks high of the management, technologists, scientists and engineers working with the plant.

Bokaro Slag Granulation Plant

A slag granulation plant, with an annual capacity of 1.35 million tonnes in the first phase, was commissioned recently at Bokaro Steel Plant. The plant is likely to be expanded to 2.35 million tonnes in its second phase.

The plant, which is estimated to cost Rs. 91 million will help Bokaro Steel Plant meet its commitments for supply of granulated slag to the U.P. Cement Corporation.

The slag granulation plant will ensure utilisation of liquid slag from blast furnaces by granulating it for use in the cement plants for manufacturing cement, besides saving the dumping space for alternative use.

New Railway Coach Repair Workshop

The Union Ministry of Railways has asked the South Central Railway to prepare Project Report for setting up a new workshop for repairing passenger coaches. The Ministry has already decided to set up this workshop at Tirupati near Renigunta in Andhra Pradesh.

The workshop was being planned for periodical overhaul of 8 units of coaches per day, with scope for future expansion. The exact cost will be known after the Project Report has been prepared. But the approximate cost is about Rs. 100 million. There is no foreign collaboration for setting up this workshop.

More Industrial Licences Issued

Twenty-five industrial licences and 31 letters of intent were issued by the Ministry of Industry during the month of June, 1979.

The items for the manufacture of which licences were issued during the month included steel forgings, non-ferrous alloys, carbon film resistors, lead in wires, discuss grinders, watch straps, tooth brushes, plastic caps, rigid PVC pipes and fittings, nitrobenzene, hydrogen gas, chloramphenicol and finished leather from raw hides.

Letters of intent were issued, among others, for aluminium foils, complete bicycles, Ford agricultural tractors, flexible PVC floor covering, safety razor blades, video tapes, nitrogen gas, industrial explosive (slurry type), enzyme (digestive), analgesic, B complex, multi-viatamins, streptomycin sulphate, paper and paper board, writing and printing paper, rayon grade pulp, whole milk powder and automobile tyres and tubes.

Substantial Expansion of Hotel Capacity

Hotel capacity in the country, has recorded substantial expansion, over the last five years. During this period 137 new hotels of international standards with a total capacity of 8,453 rooms were added to the list of approved hotels. As a result of this expansion, there were 313 hotels with a total capacity of 18,751 rooms by the end of April 1979.

The region-wise position shows that northern region has 100 hotels having a total capacity of 6,191 rooms; western region has 72 hotels with 4,545 rooms; eastern region 33 hotels with 2,001 rooms and southern region 108 hotels with 6,014 rooms.

The hotel accomodation available in the four metropolition cities shows that Delhi has 29 hotels with 3065 rooms, Bombay 40 Hotels with 3457 rooms, Calcutta 12 hotels with 1172 rooms and Madras 27 hotels with 2056 rooms.

In addition, there are 75 hotel projects at various stages of construction throughout the country. When commissioned, these hotels together will add 4,632 rooms to the existing capacity.

The India Tourism Development Corporation proposes to construct hotels at New Delhi, Chandigarh, Gauhati, Gulmarg, Pondicherry, Goa, Bombay, Ahmedabad, Bhopal, Gwalior, Puri, and five other centres to be selected during the next five years. When these hotels are completed, an additional accomodation of 1,475 rooms would become available.

The Hotel Corporation of India, a subsidiary of Air India is also proposing to construct hotels at Bombay Delhi, Srinagar, Rajgir and Kushinagar, which when completed, will add 1,180 rooms.

Augmenting Aluminium Supplies to Small Units

As a result of the new distribution policy for aluminium and the steps initiated to streamline and improve availability, the supply of electrical conductor (EC) grade aluminium to small scale units has been stepped up substantially during the current year. The allocations finalised for the small scale units constitutes nearly 48 percent of the total availability of aluminium in 1979-80.

As against this, the best offtake of the small scale sector in the last four years was only 37 percent whereas the share of the DGTD units was 36 percent. The share of the larger

units registered with the Directorate General of Technical Development (DGTD) is 52 percent this year. Following the new distribution policy, the share of small scale units in aluminium supplies has thus gone up from 37 percent in the last four year span 1975-78, to 48 percent in 1979-80. This is intended to make more aluminium available to manufacturers of cables and conductors to fully meet the requirements of power generation and electrification programmes.

To streamline allocations in the case of conductor manufacturing units, unit-wise allocations have been worked out on the basis of two-shift capacity and best offtake of the units in the last four years. In the case of cable manufacturers, capacity has not been assessed in a large number of cases. Even where capacity is known, the requirement of aluminium cannot be estimated properly because the quality of aluminium required will depend on the productmix in the cable manufacturing programme. In drawing up the allocation for cable manufacturing units, therefore, only the best offtake of each unit in the last four years, has been taken into account.

Following the guidelines issued last May for the distribution of aluminium to ensure rational distribution among all consuming units, indigenous production and imports have been pooled. While considering the allocation of imported metal by pooling it with domestic output, the suggestion made by some associations to register the quarterly requirements of units with the Minerals and Metals Trading Corporation (MMTC) was examined. But in view of the large programmed imports of aluminium and to ensure a fair deal to all producers, it was considered proper to arrange for imports on a continuing basis with specific reference to the gap between the estimated demand and domestic production and allot metal from the common pool of domestic output and imports according to the guidlines. Also, in any allocation Procedure, the quantity due to a unit is determined at the beginning of the year on basis of capacity or offtake or production and not on the basis of orders in hand in as much as units will continue to secure orders round the year and it will be difficult to foresee well ahead of the allocations the orders that units are expected to secure over a period of time.

The present allocation procedure is in many ways an improvement since every unit is aware of the quantity it is entitled to get during the year subject to limitations of power availability to aluminium smelters and the international metal position. Moreover, the share of small scale units has been substantially increased this year.

It may be mentioned that aluminium production in the first 3 months of the current year has been higher by about 9,100 tonnes than production in the corresponding period of 1978-79. Last year, aluminium output went up by about 20 percent to 215,000 tonnes from 179,000 tonnes in 1977-78. Production figures for the current year indicate that the trend is continuing. Production of aluminium during April-May, 1979, recorded an increase of 3,711 tonnes over the production last year during the same period, giving a growth rate of 19 percent. Efforts are on, in consultation with the State Electricity Boards, to further augment power supplies to smelters. In addition, 5850 tonnes of imported metal has already been received from April upto the end of June and 29,000 tonnes have already been ordered and are in the pipeline. The aim is to make adequate supplies available to fully meet the domestic demand for aluminium.

The operation of the guidelines will be reviewed from time to time to ensure its basic objective of fair distribution.

Excise Exemption for Small Units Liberalised

The Government of India has announced further liberalisation of the exemption scheme for small scale units manufacturing goods falling under the residuary tariff item 68.

Under this scheme of exemption, which is based on the value of clearances, a provision has now been made, that the value of goods which fall under the same tariff item 68, but enjoy exemption from duty under any other notification, will be excluded for the purpose of computing the value of clearances. This concession is not only expected to add to the number of beneficiaries under the exemption scheme but at the same time enlarge the quantum of existing relief.

Import Duty on Aluminium Foil Reduced

The Government of India has reduced import duty on laminated aluminium foil required for strip packing of drugs and medicines.

The effect of this exemption will be to reduce the cumulative incidence from 194 percent *ad valorem* on c.i.f. to 232.5 percent.

It may be recalled that in view of the temporary shortage in the country of plain aluminium foils used for stip packing of drugs and medicines, the import of same was allowed from abroad.

The Government has also reduced basic customs duty to the level of 27 1/2 percent and abolished the additional duty of 32 percent *ad valorem* leviable on these foils subject to certain

conditions, considering the high c.i.f. prices abroad and the need to make available these aluminium foils to the pharmaceutical industry at reasonable prices, so that the final prices of drugs and medicines to the consumer do not go up. Since the shortage also persists in regard to aluminium foil laminated with polythene film, the same is also being imported. The Ministry of Finance has extended similar duty concessions on such laminated aluminium foil as well. The concession on both varieties of aluminium are available upto September 30, 1979.

More Funds for Rural Electrification

The Rural Electrification Corporation has sanctioned over Rs. 44.50 million for 34 electrification projects spread over in nine States. These are Andhra Pradesh, Himachal Pradesh, Jammu and Kashmir, Bihar, Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu. Under these projects covering more than 1400 villages, it is proposed to energise over 11,000 irrigation pumpsets and tubewells, and about 450 small scale agro-based and other industrial units in rural areas, apart from thousands of domestic, commercial and other connections.

The highlight of the new sanctions is the approval of 27 projects under the special programme of participative financing for large scale energisation of irrigation pumpsets and tubewells in potential areas to give further fillip to agricultural production. These projects will receive a total loan assistance of over Rs. 68,30 million, of which the REC component is Rs. 22.50 million and the rest will be financed by commercial banks. These in turn will be refinanced by the Agricultural Refinance and Development Corporation (ARDC) to the extent of fifty percent. Under these Special projects, 12 of which will be in Bihar, it is envsaged to energise more than 10,000 irrigation puropset and tubewell.

With this, the total number of projects sanctioned by the Corporation so far exceeds 2,780. The REC will provide an aggregate loan assistance of more than Rs. 10350 million for the implementation of these projects which envisage energisation of more than 1.17 million irrigation pumpsets and tubewells and 159,000 small scale industrial units in the rural areas of 21 States.

In the REC-financed scheme areas, already more than 57,600 new villages have been electrified while the number of irrigation pumpsets and tubewells energised now exceeds 400,000.

Science and Technology

Mine to Immobilise Heavy Tank Developed

A very effective mine, with the power to immobilise the heaviest known tank in the world has been developed at the Armament Research and Development Establishment (ARDE) in Pune. The mine can be mechanically laid and is non-detectable. Besides, ARDE has developed a large variety of important weapons and equipment for the armed forces.

ARDE is an inter-service establishment catering to the needs of all the three services—army, navy and air force. It was set up in 1958 to design and develop weapons and ammunition to meet the present and futuristic requirements of the armed forces; to modify existing weapon systems for more effectiveness; to assist the advice services in the choice of suitable armament stores; and to undertake studies in related fields to meet the futuristic needs of the armed forces. During the two decades of its existence EARD, has increased its activities to cover several new areas.

The semi-automatic Ishapore rifle, and the 75/24 pack Howitzer used in mountainous terrain are among the earlier products of the ARDE.

ARDE has developed a silent version of the 9 mm machine carbine. A line-throwing device has been developed that can be fired from the Ishapore rifle to stretch a line between two ships.

It also manufactures some items which cannot be ecnomically produced in ordnance factories.

ARDE has successfully completed hundreds of projects so far. These include a field gun, power cartridges for ejection seats, timpet mines, anti-submarine rockets, long range artillery rockets as also special fuses, rockets for the Air Force and special naval armaments.

Another creditable achievement of the ARDE is the development of power cartirdges required by the Air Force. Some of these cartridges, when activated, save the life of the pilot by ejecting him from the damaged aircraft. This enables him to land safely with the aid of parachutes. Power cartridges have to be frequently replaced/replenished as their installed life is short. Since it is a life saving device, an aircraft, otherwise operational, would be grounded if such cartridges were not available. ARDE has developed a vareiety of such cartridges for different aircraft and produced them on a pilot plant scale for supply to the Air Force.

The laboratory has developed Piezo Electric Crystals. These crystals, on

the application of pressure, develop a charge which can be used to initiate a fuze and are widely used in armament stores. ARDE is today supplying a large number of these crystals to the ordnance factories for being fitted into the ammunition items. These crystals have also a wide variety of civilian uses like gramaphone pick-ups and in medical electronic instruments.

ARDE is currently engaged in developing the armaments for 1980s and 1990s. A major weapon system is said to take anything between seven and ten years for complete development even in advanced countries. The solution lies in looking ahead and taking up the projects in advance of the projected needs. The ARDE has planned to create the necessary infrastructure for undertaking original design and development in high technology areas. Some of the areas indicated are development of light and more versatile family of small arms; design and development of guns and mortars with greater range and higher lethality; and rocketry.

New Standards of ISI

The ISI has published an Indian Standard method of testing plastics Part III— Preparation of Test Specimens Section 2 Injection Moulded Test Specimens [IS:8543 (Part III/Sec. 2)-1978], which prescribes the methods for the preparation of test specimens of thermoplastic materials by injection moulding process. Many test are generally performed on specially moulded specimens; in fact all the tests usually described as being on moulding materials are really on specimens moulded from the latter, with exception of a few which may be described as checking the mouldability of the material.

This standard lays down fairly reasonable moulding conditions to be used for preparing test specimens, and to strike a reasonable compromise between standardization and inevitable variations in moulding behaviour from manufacturer to manufacturer.

Another standard published relates to an Indian Standard method for determination of coefficient of friction of foodgrains (IS:8972-1978) which prescribes the method for determination of coefficient of friction of foodgrains for bulk storage purposes.

Coefficient of friction is important in designing a structure for storage of grains in bulk. Several methods are currently being used to measure the coefficient of friction. Because of different methods used by agricultural scientists, it is not possible to have reproducible figures of coefficient of friction of various foodgrains. Thus the designing of bulk storage structures is handicapped. This standard, therefore, prescribes a method for measruing the coefficient of friction. Adoption of this standard would enable the compilation of data from all research workers on a uniform basis.

Still another standard published by ISI's is an Indian Standard Specification for Demethylamine, Technical, (IS:8874-1977), which prescribes the requirements and the methods of sampling and test for dimethylamine, technical. Dimethylamine is used in the manufacture of rayon tyre cord, SBR, acetone formaldehyde resins and nitro-compounds. It is also used in the tanning of leather, insecticies, soil disinfectants and fungicides, drugs and pharmaceuticals, ion-ion-exchange resins, acrylic polishes, resin curing agents, weedicides, drilling of oil wells and in the catalyst for reaction polymerization.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Indian Standards Institution has also published an Indian Standard specification for alternators for automobiles (IS: 8925-1978) which covers basic requirements for specifying, evaluating and methods of testing 12 V and 24 V alternators intended for automobiles charging systems. This standard is related to alternators or ac agenerators with diode rectification intended for charging systems of automobiles. This standard lays down the methods of specifying the performance, presentation of data and testing of alternators with a view to bring about an acceptable level of quality and reliability.

The standard provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Institution.

The Institution has also published an Indian Standard Method of measurement of lamp cap temperature rise (IS. 8913-1978), which specifies the standard method of measurement of lamp cap temperature rise which is to be used when testing lamps for general lighting services for compliance with IS:418-1978-Specification for tungsten filament general service electric lamps (*third revision*). It also describes the test lampholders to be used for lamps fitted with E27, E40 and B22/25x26 caps. The temperature rise of the lamp cap of tungsten filament lamp is, in practice, very dependent on the mounting of the lamp and the condition of the cap. For this reason, it has been necessary to define a

method of measurement based on the use of a standard test lampholder.

Compared with the measurement of the bare lamp cap, the measurement of the temperature rise of a standard test lampholder has the following advantages : (a) A better approximation to actual operating conditions; (b) Improved reproducibility, as there is less influence from lamp cap material, finish and surface conditions (which also have little influence in actual operating conditions); (c) Levelling of the temperature of various parts of the cap, giving a better over-all picture of the influx of heat from the lamp to the fittings; and (d) Reduced duration of measurements, as the thermocouple is permanently fixed to the test lampholder.

IITF'79—Customs Clearance Procedure Streamlined

With a view to promoting foreign participation in the fairs to be held in the country, the Government of India has streamlined and liberalised the procedure for customs clearance of fair goods.

The Ministry of Finance has issued notification Nos. 116-Customs, 117-Customs, dated 1st June, 1979 exempting the goods imported into India in connection with any 'Fair' from the whole of import duties (basic, additional and auxiliary duty of customs) subject to certain conditions specified in the Notification No. 116-Customs The "goods" referred to in this notification includes :

(a) i. advertisement and publicity materials such as posters, booklets, catalogues, books and pamphlets, and

ii. advertising and demonstration material (which is demonstrably publicity material for the foreign goods displayed), such as sound recordings, films and lanterns slides as well as apparatus for use therewith;

(b) goods necessary for purpose of demonstration;

(c) equipment including interpretation apparatus and sound recording apparatus;

(d) construction and decoration materials and electrical fittings for the temporary stands of exhibitors.

Marking/Labelling/Invoicing of Goods/Package

Following aspects may be noted for compliance :

(a) Foreign goods imported for the 'Fair' could be broadly categorised under the following heads:

i. Exhibits proper for display

ii. Construction and decoration materials

iii. Expendible materials intended for servicing or maintenance of exhibition stalls or exhibits.

iv. Publicity material in the nature of posters, booklets, catalogues, books or pamphlets for free distribution and

v. Articles intended for sampling to the visiting public or for use in any manner not connected with the servicing or maintinance of exhibition stalls or exhibits.

(b) The invoices should be on the pattern of commercial invoices covering full description of the goods, number of units of each, unit value and the total value for the item. The rate/value should be both FOB/CIF in Indian rupees. 'Separate invoices should be made for each category of goods'.

(c) While preparing bills of entry, the articles should be classified according to the broad categories indicated in para 2 above.

(d) As far as possible, articles of the same category should be put in each package. This will facilitate accounting and examination.

(e) Package should bear distinctive marks, and a detailed specification sheet should be prepared for each package. Every specification sheet should list in detail all the different articles in each packages and show the number of units of each article. The specification sheets should be attached to the respective invoice prepared for a consignment.

Materials to be re-exported after the exhibition should bear identification marks. Where original identification marks of manufacturers are not found on any such articles, it is desirable that the foreign participants should, where possible, mark on the articles their own marks for identification at the time of packing for re-export. These identification marks should also be re-produced on the specification sheet referred to in para 2(e) above.

Condition for Exemption from Import Duty

(a) Imported goods falling under categories (i) to (iv) above will be exempted from customs duties subject to fulfilment of the conditions specified in Notification No. 116-Customs, dated 11-6-1979, which inter-alia includes re-export of goods within a period of six months from the date of official closure of the fair or within such extended period as the Assistant Collector of Customs may allow and production of a certificate of participation from the Trade Fair Authority of India in the form indicated in the notification.

(b) i. Import of non-consumable goods required in connection with international/national exhibitions or fairs approved by the Trade Fair Authority of India or the Central Government may be allowed without

any import licence or CCP provided the goods in question are re-exported within a period of six months from the date of import into India and a requisite bond and a bank guarantee for the purpose are furnished at the time of clearance of goods to the customs authorities.

ii. The sale of exhibits, if allowed, will be permitted only on payment of duty against a valid import licence within the bond period allowed for export. This facility will also be available to such actual users as are eligible to import the same goods under Open General Licence. If sale of goods is not effected within the bond period due to circumstances beyond the control of the importer, the customs authorities may allow extension of bond period at their discretion. Import of consumable items such as printed materials, pamphlets, literature etc. pertaining to exhibits, will also be exempt from import trade control procedure. In addition to advertising articles, consumable goods may be allowed clearance by Customs upto Rs. 1500/- without the requirement of CCP or an import licence.

On arrival of the goods at the port of entry, the importers or their authorised agents shall file with the Custom House at the port of entry mere application for allowing clearance at this stage, no bill of entry will be filed. Thereafter, the imported goods will be merely inspected without being opened for examination. They will then be sealed with the customs seal and sent under customs escort to the railway station or airport for being despatched to Delhi (Transfer of such goods from the port of entry to Delhi will normally be allowed only by rail or air. In exceptional cases Assistant Collector of Customs may consider and allow onward transport of goods by Road provided these are adequately insured and subject to any other condition laid down by the Assistant Collector of Customs). It will be necessary for the importers to sign a letter of guarantee indemnifying the Collector of Customs at the port of entry from damage to or loss of any materials by accident or theft or otherwise in transit, in a duly prescribed form. The guarantee for which no bank surety etc. need be taken, will also cover the liability for duty for any articles found missing on arrival (at the place of exhibition), on comparison with the packing list or which cannot be accounted for to the satisfaction of the Collector of Customs and Central Excise, Delhi. All expenses for escorting the goods and booking them for onward transmission will also be borne by them. The railway receipt or the air consignment note will be made out in the name of and sent to, the Collector of Customs and Central Excise Delhi. Packages landed in a damaged condition at the port of entry, should be examined at the port itself before they are despatched 'in bond'.

Clearance at Pragati Maidan

(a) On arrival of the goods in Delhi the importers or their authorised agents shall file a bill-of-entry in the usual prescribed form and subscribe all copies of the same in bold red letters "Goods for the Indian International Trade Fair, (1979, IITF'79) to be held at Delhi during the month of November-December, 19-79". They shall present the bill of entry to the Assistant Collector of Customs, Pragati Maidan, New Delhi with a detailed packing list and invoice (in duplicate) showing the marks and numbers of the packages, quantities, description and value of the goods. At the same time, importers shall file a bond or an instrument to the satisfaction of the Assistant Collector to re-export the goods within a period of six months from the date of official closure of such Fair or such period as extended by the Assistant Collector. The re-export bond shall cover all the articles despatched under seal from the port of entry to the place of exhibition and included in the packing list so that the liability for duty covers even the articles that may be found to be missing on arrival at the place of exhibition on comparison with the packing list. The re-export bond as referred to in para 3(B) is also so required to be executed before the Assistant Collector of Customs to cover obligation under Import Trade Control.

(b) The bills-of-entry being noted will be numbered under a separate series for bills-of-entry passed provisionally free of duty for the 'Fair'. The packing list (in duplicate) will be assigned the same serial number as that of the bill-of-entry to which it relates and will also be stamped with the office stamp of the Delhi Custom House under the attestation of a responsible officer of Customs.

(c) The Collector of Central Excise, Delhi will appoint an officer of Customs with the requisite staff to attend to assist in the work relating to the clearance of the goods for the 'Fair'.

(d) An officer of Customs specially deputed for the purpose by the

officer mentioned in the previous paragraph will escort the goods, after their delivery is taken from the airport/railway, to the site of the 'Fair'. The goods will then be examined in a particular portion of the 'Fair' site set apart for this purpose and checked with detailed packing list with regard to the quantity, description, value etc. Detailed classification or assesment of the goods need not be made at this stage. It should, however, be ensured that it is possible by reference to the description and value shown in the packing list to determine the duty leviable on any particular item of the detailed packing list which may ultimately be retained for home consumption. If certain items mentioned in the packing lists are found to have been short-packed, a certificate to that effect will be issued by the Customs staff posted at the site of exhibition, on being satisfied by him.

(e) Exhibition goods covered by category (v) of para 2 above will not be exempted from duty. The officer of Customs at the place of exhibition will assess these goods and recover customs duty on a separate bill-of-entry showing all particulars.

(f) The officer of Customs will also be responsible to see that in all cases the goods are covered by a proper Import Trade Control licence to take appropriate action in this respect before the goods are allowed to be used in the exhibition, wherever required.

Goods Imported at the Delhi Airport

On arrival of the goods at the Delhi Airport, the procedure set in para 4 above will mutatis mutandis be followed. It will also be necessary for the importers to sign a letter of guarantee indemnifying the Collectors of Central Excise, Delhi from damage or loss of any materials by accident or theft in transit in a duly prescribed form. The guarantee, for which no bank surety etc. need be taken will also cover the liability for duty for any articles found missing on arrival (at the place of exhibition) on comparison with the packing list or which cannot be accounted for to the satisfaction of the Assistant Collector of Customs. At the air-port the imported goods will be merely inspected without being opened for examination. They will then be sealed with the Customs seal and sent, under the Customs escort, to the site of the 'Fair'. Packages landed in a damaged condition at the airport should be examined at the airport itself before they are despatched to Fiar site under customs excort. Thereafter, the procedure laid down in para 5 will be followed mutatis mutandis.

Procedure to be Followed for Re-export at the Close of Fair

(a) At the end of the 'Fair', the importers or their authorised agents will submit a written application to Assistant Collector of Customs, Delhi for permission to re-export the goods out of India. The port of export from which the goods will be shipped will also be specified in the application. The importers or their authorised agents will also at the same time file shipping-bills in the ususal manner. The shipping-bill shall clearly mention the particulars of the bill-of-entry under which they were originally imported and allowed to be cleared provisionally free. On filing of such shipping bills, a detailed check of the goods against packing lists will be made by officers of customs and the goods packed and sealed by customs seal. If any goods not re-exported within the bond period, customs duty is required to be paid except in following cases :—

i. The requirement of re-export shall not apply to goods of expendible or perishable nature, if the Assistant Collector of Customs is satisfied that such goods have actually been rendered waste or have been used up in the maintenance of such Fair, and in a case where the goods are rendered waste but are not used up, such goods are either surrendered to the customs authority or destroyed in the presence of an officer of customs.

ii. The requirement of re-export shall also not apply to any advertisement and publicity material in the nature of poster booklets, catalogues, books or pamphlets distributed freely.

Apart from customs duty the officer of customs will see that the requirement of Import Trade Control has been complied with by the importer.

(b) The packages containing the goods to be exported will then be booked by rail or air to the port of export. In exceptional cases, Assistant Collector of Customs may consider and allow transport of goods by road provided these are adequately insured and subject to any other condition laid down by the Assistant Collector of Customs. The railway receipt or the air consignment note will be sent directly to the Collector of Customs at the port of export. A letter of guarantee indemnifying the Government against any loss

or damage of the goods in transit covering also the liability for duty in respect of the missing goods, and also bearing all expenses incurred for escorting and booking the goods to the port of shipment, will have to be executed in the same manner as before.

(c) On receipt of the goods at the port of export, the importers or their authorised agents shall make arrangements to have the goods escorted under customs supervision from the railway station or the airport to the place or shipment and shall also file an application for re-export on which the goods shall be allowed to be re-exported after verifying the seals only and without examination.

(d) Goods to be re-exported through the Delhi airport will be escorted by an officer of customs to the airport and will be allowed to be shipped after verifying the seals only and without examination. ❐

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February 23—March 2, 1980
Leipzig Spring Fair, Leipzig (GDR)	March 9—16, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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A RARE OPPORTUNITY FOR INDIA TO REACH ALL CORNERS OF THE WORLD

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The Trade Fair Authority of India is organising on behalf of the Government of India, the biggest Fair taken up by this Authority so far, viz., India International Trade Fair (November 10—December 9, 1979). This Fair will be a confluence of many developed and developing nations and whole spectrum of India's industrial and technological development, providing an opportunity for mutual exchange of ideas on technical know-how. To coincide with the occasion, the Trade Fair Authority of India is bringing out prestigious Fair Guide. This Souvenir will be presented to the foreign delegates and distributed through Embassies/High Commissioners Trade Commissions abroad and foreign Missions in India. It will be a useful vehicle for projecting Indian products/activities before an international assembly and also the domestic segment. The Fair Guide will reach the millions who visit the Fair.

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MECHANICAL DATA

Overall size	15cms x 21.5cms
Print area	12cms x 18 cms
Printing process	Offset
Material accepted	Art works-same size or larger/bromide/colour transparencies.

NOTE:

1. The Managing Director, Trade Fair Authority of India reserves the right to reject any advertisement or to make any modifications therein at his discretion which will be final and binding on the advertisers.
2. Matter to be typeset, must be sent in triplicate and typewritten.
3. No refund will be allowed for withdrawal of advertisements after August 31, 1979.

Regd. No. D(C)70

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Organised by the Trade Fair Authority of India

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Indian participants in IITF 79 are requested to continue and reopen their displays for this fair No extra licence fee will be charged

dawp 7805 84

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economic and commercial news

News Highlights

RITES' Railway Plan for Bangladesh

Rail India Technical and Economic Services Ltd. (RITES), a public sector undertaking under the Union Ministry of Railways, have been awarded recently a prestigious contract by the Asian Development Bank for the study and preparation of the report for the Bangladesh Railway Development Planning Project.

Export Target of Engineering Goods Raised

The Chairman of Engineering Export Promotion Council, disclosed recently that Coucil has set an export target of R. 8,500 million for current financial year. He said that the target for 1980-81 has been fixed at Rs. 10,000 million. The new target aims at achieving a growth rate of about 25 percent. Export orders at the end of May this year stood at Rs. 7,500 million, he added.

Index of Industrial Production Up

The monthly index of industrial production for April, 1979 (Base 1970=100) stood at 145.9. It was higher than the

(Contd. on page 2)

Export Performance and Potential

Export of Railway Equipment

Export orders worth over Rs. 80 million are under execution by the Indian Railways during the current financial year. The items include 50 metre gauge coaches for Vietnam, 4 narrow gauge coaches for Nepal and 3 ticket printing machines for Sri Lanka.

During 1978-79, orders for 48 coach bogies to Taiwan, 30 coaches to Philippines and 20 coaches to Uganda were executed.

Upto March 1978, the Railways had exported 166 passenger coaches to Taiwan, Philippines, Zambia and Tanzania; 311 bogies to Taiwan, Thailand and Burma; 5 reconditioned steam locomotives and 15 diesel electric locomotives to Tanzania.

Entering the export field in 1967 in a small way with export of two bogies to Thailand, the Railways have so far executed Rs. 250 million worth of export orders.

The Indian Railways also have the capability to export other types of railway equipment such as train lighting material, signalling, vacuum brake and air brake equipment, track materials, ticket printing machines etc.

The Ministry of Railways have set up two public sector undertakings—Rail India Technical and Economic Services (RITES) and Indian Railway Construction Company (IRCON).

The RITES renders consultancy services in India and abroad in all fields of railway technology. The IRCON undertakes execution of railway pro-

index for April, 1978 by 2 percent. The growth rate during the first four months of 1979 over the same period of 1978 was 5.2 percent.

Export Duty on Coffee Reduced

Having regard to the fall in international prices of coffee recently, the Government of India has reduced the rate of export duty on coffee from Rs. 900 per quintal to Rs. 730 per quintal with effect from August 4, 1979.

India to Have Another Nuclear Power Station

According to Dr. Sethna, the Chairman of Atomic Energy Commission, one more nuclear power station with two units of 235 MW capacity each is to be set up in the country. He said more heavy water plants are planned in the country as they are essential to meet the requirements of the nuclear power programme.

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jects of all types on turn-key basis. During the past two years, the two organisations have completed a number of consultancy assignments and projects in developing countries in Africa, Middle-East and East Asia.

Promoting Exports to Japan Through Buyer-Seller Meets

Trade Development Authority (TDA) will hold a series of buyer-seller meets in Tokyo, Japan, between October-December 1979. The programme is being organised with the technical assistance and cooperation of Japan External Trade Organisation (JETRO) and financial assistance from the Commonwealth Secretariat, London.

Under the programme, a weekly display of allied products in a specific group will be arranged where leading Japanese buyers and importers will be invited to meet their Indian counterparts. The display will be replaced every week by a new group of products. In all nine product groups have been selected.

The first meet in the buyer-seller series will open on October 9 and will be devoted to auto ancillaries, bicycle components and accessories, sewing machines and components and forgings and castings. In each product group about 14 Indian firms will take part. The last buyer-seller meet will end on December 8, 1979.

Other product groups that will figure in the buyer-seller meets are : (1) electronic components, scientific instruments, lighting and fixtures; (2) readymade garments, knitwears and leather garments; (3) home furnishings, carpets, made-ups, coir products and basketry; (4) garden, hand and small tools, vices, industrial fasteners and builders' hardware (5) sports goods, leather goods including footwear gloves and bags; (6) precious jewellery, imitation jewellery polished diamonds, precious and semi-precious stones; (7) EPNS ware, brassware wood products decoratives and (8) chemicals including herbs, perfumes, incenses and fire works.

Over 125 firms are expected to the take part in this export development programme. Warehousing facilities have been made available in Tokyo to the Indian firms by the Trade Development Authority. Exhibits will be withdrawn from the warehouses every week and kept back after the completion of the buyer-seller meet in the warehouses. The participants in the meets will have the option to sell the exhibits in Japan after the meets are over.

The programme is aimed at providing exposure to the Indian products in the Japanese market, bridge the information gap and remove the initial hesitation with which most of the Japanese buyers still approach the Indian exporters. The programme is likely to provide leads for product adaptation, possibilities of joint ventures and in-depth knowledge of the market requirements in Japan.

Upswing in Coir Exports

India's exports of coir and coir products during 1978-79 amounted to over Rs. 257.9 million as compared to exports worth Rs. 239.1 million in the previous year. The items of export included coir fibre, yarn, mats, mattings rugs and carpets and rubberised coir.

Goods worth Rs. 171.8 million, over 50 percent of the total exports during the year, were exported to the Western countries, including France, the UK, Federal Republic of Germany, Denmark and Italy. Exports to the United States and Canada amounted to about Rs. 46 million, while

goods worth over Rs. 15.7 million were exported to the East European countries—the Soviet Union and the German Democratic Republic being the main buyers.

Among the East Asian countries, Australia, New Zealand and Japan are the main importers and during 1978-79 coir and coir products worth over Rs. 14 million were exported to to these countries. Exports to West Asian countries, among which Kuwait is the main buyer, amounted to about Rs. 9.8 million.

The coir yarn accounted for 55 percent of the total exports and the finished products for 45 percent. Among the finished products, coir door mats are in great demand abroad.

Record Export of Indian Spices

According to the Spices Export Promotion Council, Cochin, India's export of spices and spice products during 1978-79 registered an all-time record. This is the sixth consecutive year of achieving all-time record in spices exports.

During 1978-79, India exported 99,292 tonnes of spices and spice products valued at Rs. 1,609 million, registering new records both in terms of quantity and earnings.

Spices exports during the past six years are given below:

Year	*Quantity (Tonnes)*	*Value (Rs. in million)*
1973-74	62,793	556.0
1974-75	54,306	625.9
1975-76	61,951	727.2
1976-77	61017	760.0
1977-78	73,861	1401.9
1978-79	99,292	1609.0

During 1978-79, export earnings from cardamom, dry chillies, turmeric and turmeric powder, curry powder, garlic and spice oils registered new peaks.

Exports of dry chillies recorded a phenomenal increase to 30,211 tonnes valued at Rs. 292.3 million in 1978-79, from 4,673 tonnes valued at Rs. 40.5 million in 1977-78.

Exports of cardamom during 1978-79 were to the tune of 2,903 tonnes valued at Rs. 595.6 million achieving an all-time record, as against 2,763 tonnes valued at Rs. 484.4 million in 1977-78.

Turmeric and turmeric powder exports achieved a new peak in 1978-79 with an export of 10,278 tonnes valued at Rs. 110.3 million as against 9,397 tonnes valued at Rs. 71.5 million in 1977-78.

Export of curry powder also registered an all-time high both in terms of quantity and earnings during 1978-79, accounting for 2,062 tonnes valued at Rs. 22.5 million from 1,727 tonnes valued at Rs. 18.1 million in 1977-78.

Garlic was another item which recorded a phenomenal increase in exports during 1978-79 with an export of 4,217 tonnes valued at Rs. 27.1 million, from 2,489 tonnes valued at Rs. 9 million in 1977-78.

Fennel seed, fenugreek seed, cassia and cumin seed were the other items which registered increase both in terms of quantity and earnings during 1978-79 compared to 1977-78.

Exports of pepper registered very steep decline both in terms of quantity and earnings to 15,268 tonnes valued at Rs. 280.7 million in 1978-79, from 25,223 tonnes valued at Rs. 500 million in 1977-78. The year 1977-78 was a record of year of exports for pepper.

According to the Council, there was no remarkable change in the direction of trade during the period April-December, 1978. In respect of pepper, USSR and other East European countries, USA, Italy, Canada etc. were the important buyers. In the case of cardamom most of the shipments, though small were to Middle East countries. East Asia was the major importing zone for chillies and for ginger and turmeric. Middle East ranked first.

West European countries accounted for the major share of cury powder exports from India. Exports of oils and oleoresins (extractions) of spices were mainly to USA, West Germany, Australia, Canada, UK, France, Sweden and Japan.

Indo-Syrian Radio Agreement

A protocol for cooperation in the sphere of radio broadcasting and television between the Akashvani and Doordarshan of India and General Organisation for Broadcasting and Television of Syria was signed recently in Damascus by Indian Ambassador, Mr. A.P. Venkateswaran and Director General Syrian Radio and TV Mr. Fouad Ballat.

The protocol is a further step in developing and consolidating the multi-faceted cooperation between Syria and India and is covered under the cultural agreement signed between the two countries in 1975.

The protocol provides for the two sides to cooperate with each other in the sphere of radio broadcasting and TV through exchange of radio scripts, reportages, plays, music of all genres, feature and documentary films, correspondents and reporting teams and technical literature. In addition, exchange of professional and training personnel of one country in the other would also take place.

After the signing ceremony, the Syrian Minister of Information, Mr. Ahmad Iskander Ahmad assured the Ambassador that the Syrian side would do its best to give a practical shape to the protocol.

Improved Performance of STC

The State Trading Corporation of India Limited (STC) crossed a sales turnover of Rs. 10,000 million during 1977-78. The turnover during 1977-78 was higher by about 10 percent over 1976-77, says the annual report of the Department of Commerce, Union Ministry of Commerce, Civil Supplies and Cooperation for the year 1978-79. The trade turnover during the year is shown in the table below :—

(Rs. in million)

	1977-78 Actuals	1978-79 Revised Budget
Exports	5,570.0	6,083.0
Imports	5,018.0	4,899.0
Domestic	108.0	96.0
Total	10,696.0	11,078.0
Exports		
Canalised	3,200.0	3,953.0
Non-canalised	2,370.0	2,130.0

Compared to the revised budget of Rs. 6,080 million, performance during April, 1, 1978 to January 13, 1979 amounted to Rs. 4,210 million. Contracts worth Rs. 850 million were in hand for implementation during the year 1978-79. Canalised exports during this period were higher at Rs. 2,970 million as against Rs. 2,280 million during the corresponding period of last year. The increase was contributed by sugar (Rs. 720 million), silver (Rs. 390 million), castor oil (Rs. 70 million) and shellac (Rs. 20 million). Non-canalised exports registered a fall of Rs. 530 million from Rs. 1,770 million to Rs. 1,240 million during this period. This was mainly due to lower exports of coffee (Rs. 340 million); tobacco (Rs. 40 million), jute goods (Rs. 150 million), leather goods (Rs. 10 million), consumer products (Rs. 20 million), live-stock meat (Rs. 10 million). However, exports were higher than last year in respect of alcohol (Rs. 10 million), molasses (Rs. 20 million), army software (10 million), readymade garments (Rs. 10 million) and footwear components (Rs. 20 million).

STC successfully introduced a number of products in the international market particularly manufactured by the small scale and cottage sector such as sandal wood billets, silver jewellery, kuth oil, tapioca chips, dried mushrooms, biscuits, jaggery and flush door frames. Other new items promoted by STC are instant coffee and packaged tea.

Several new markets were tapped during the year. These included Japan for coffee, China for shellac, USSR for gramophone records and Canada for sophisticated high value leather shoes.

A major programme was undertaken for intensifying assistance to small scale sector and primary producers. Assistance to the small scale sector in the promotion of its export was intensified through the consortium approach. This has resulted in extending reliable export supply base by organising a number of small scale units to manufacture quality products. Technical collaboration was arranged with the overseas buyers to upgrade the product and improve the productivity. STC also assisted selected individual units through the supply of machinery and equipment on easy terms. A number of items namely, sports goods, fireworks, lock and padlocks, sanitaryware, etc., have been identified for export from the small sector and the problem areas are being looked into further for finding out solutions. Common facility centres were created in five important leather manufacturing States where small scale manufacturers were provided with the facilities of leather processing and finishing.

Collaboration arrangement with the Hungarian organisation for supply of shoe upper manufacturing machines was made. Under the agreement 2 million shoe uppers would be exported to Hungary during the next five years.

An agreement with an Italian designer was entered into to upgrade the skills of Indian designers of high fashion garments for tapping the high fashion garments markets of Western Europe and USA. Display of high fashion garments was organised through fashion shows at New Delhi, Rome and New York. These displays have met with notable success. STC has set up facilities at Madras to undertake commercial production for such garments and for this purpose and has hired services of three Italian experts. Simultaneously, STC has also taken steps to develop Indian skill with the help of these experts and the Italian designers.

As regards STC's imports during 1977-78, these were of the value of Rs. 5,020 million as compared to Rs. 3,010 million in 1976-77. Imports during April, 1978 to January, 1979 amounted to Rs. 3,820 million which were slightly lower than Rs. 3,840 million during the same period last year.

The Corporation maintained supplies of edible oils both to the vanaspati industry and for direct consumption

through the public distribution system. Exports of edible oils have been canalised through the STC.

Sales of cement in the first 9 months of the year 1978-79 amounted to 950,000 tonnes. STC organised the imports on an urgent basis to meet the rising domestic requirements. Long-term contracts were initiated which assured future supplies on a regular basis at economic prices.

During the year 1978-79, the Corporation supplied 174,000 tonnes of newsprint as against a total supply of 178,000 tonnes during the whole of 1977-78. Additional supplies were made to meet the increased demands from the newspaper industry.

STC continued with buffer-stock for seedlac and farmer support operation for tobacco. The presence of STC in the domestic market imparted stability to the internal prices. During the current year, STC has bought about 4,000 tonnes of tobacco on commercial account and more than 8,000 tonnes on Government account which has been helpful to the growers in a glut situation.

Apart from being a premier international trading house, a new role has been envisaged for the Corporation to discharge certain socio-economic responsibilities in the realisation of the objectives of the new development policy of the Government. Its activities have been given an orientation to promote exports in the agricultural and small scale sectors, basing its operations in such a way as to reach primary producers and growers and to avoid exploitation by middlemen. The STC will also have its role in price support and buffer-stock operations designed to achieve price stability of essential items.

To implement the new objectives of the Corporation, its office and the branches have been re-organised. The Corporation's functions have been divided into groups like Procurement, Projects, Products Management, Marketing and Export Services. New functions of Project Management, Procurement and Product Management were identified for manufactured products in order to give assistance to small scale sector in producing quality products and enlargement of job opportunities. A seperate Project Division has been created to prepare feasibility reports and undertake implementation of projects where STC is planning to make an entry. Some of the major export oriented products identified are fruit processing, meat processing, tuna fishing/fish oil/fishmeal, dry battery and old gold jewellery.

HINDECH'80-Wholly Indian Expo in Iraq

Encouraged by the notable success achieved by Indian participants in INDEE'79 in Jakarta, the Engineering Export Promotion Council (EEPC), has decided to organise, on the pattern of INDEE'79 in Jakarta, a wholly Indian Exposition in Baghdad (HINDECH'80) in March 1980 on a big scale in active collaboration with Chemicals and Allied Products Export Promotion Council and Basic Chemicals, Pharmaceuticals and Cosmetics Export Promotion Council.

Iraq has become an important and growing market in the Middle East for Indian products. The Iraqi market offers to the Indian exporters a wide range of engineering goods. She has embarked upon ambitious Development Plans and a large number of projects are under execution. Indian firms have also been able to secure some prestigious contracts particularly in the field of construction projects. During bilateral discussions, the Government of Iraq suggested to Government of India that an exclusive exposition of the range of Indian products which can be offered to the Iraqi purchasing organisations, would help in creating an awareness and establishing credibility of Indian capabilities. It would also give an opportunity to Indian firms in assessing the market, price, trends, as well as the competitiveness of their products vis-a-vis other suppliers in Iraq.

The aim of the HINDECH'80 are (a) To highlight the level of technical capability and sophistication achieved by the Indian engineering industry in various product sectors of import-interest to Iraq and thereby to bridge the communication gap that exists at the Iraqi market and about what India can supply; (b) To project the image of Indian capability in its proper perspective in undertaking technical consultancy and civil engineering construction projects on a turnkey basis and/or sub-contracting basis and also to explore possibilities of greater participation of Indian firms in Iraqi Development Plans/Projects; and (c) To establish direct contacts with Government buying organisations for promotion of exports of Indian products.

The venure of the Indian Expo will be Baghdad International Fair Ground, and its duration would be from 21st March to 28th March, 1980 (inclusive). The Engineering Export Promotion Council proposes to display a wide range of engineering goods and services taking into consideration the market potential of Iraq. A broad list of products to be displayed is given below capital equipment air conditioners and Water Coolers diesel engines including marine diesel engines, Pump Sets drills and drilling equipment and oil rigs, oil exploration equipment.

fabricated structures, construction machinery, complete range of machine tools, agricultural machinery and implements, equipment for cement plant and spares, textile machinery, leather tanning machinery, industrial Compressors and fasteners, packing machinery; Industrial Knitting-machines, welding machinery (non-electrodes), machinery for manufacture of wire nails, bolts nuts, vulcanissing tyres, engineering button making, Steel pipes and ductile C.I. pipes, surigical instruments, railway track material including dog spikes; transport equiament-railway wagon, coaches and bogies tankers trucks, buses, jeeps, tractor parts, auto parts, batteries; electrical equipment and accessories— generators, tribunes, mini generator sets (diesel), transmission line towers, sub-station structure and equipment boilers, electrical heat exchangers, electrical fixtures; electronics-radios, televisions, TV tubes cassettes set, record players, calculators, inter communication sets, electronic watches, battery - operated clocks, teleprinters sets, mixis and grinders, instrumentation and panel controls, X-Ray equipment and medical electronic products, cinematographic machinery, wireless equipment, electronic measuring instruments computers, portable loud-speakers, microphones, amplifiers, telephone equipment; light engineering goods—hand tools, small tools and cutting tools, steel window sections; laboratory, scientific and précision instruments ; Projects-technical consultancy services; turnkey projects, civil construction joint ventures, fisheries developmentm oil exploration field/oil refinery sewerage/water treatment projects, projects relating to land reclamation, projects relating to housing estates and projects relating to roads, bridges, urban buildings.

Exhibition space includes Pavillion No. 27 and 28 with covered space of approximately 3800 sq. mt. and open space of 1000 sq. mt.

Rental charges would be Rs. 700per sq. mt. for covered net display area and Rs. 400 per sq. mt for open net display area.

Rental charges include space rent, construction of booths, partitioning, display of equipment, decoration of stands, supply of name board/painted cutout letterings and common facilities such as business lounge, film screening area and common passage-ways, cafeteria, etc.

The payment of rental charges is to be made by bank draft drawn on any sche duled Bank in Calcutta in favour of the Engineering Export Promotion Council There will be no refund of participation charges collected from the exhibitors for HINDECH'80 in Baghdad.

A minimum allocation of net space for display has been fixed at 6 sq. mt. Additional space allocation will be made in multiples of 6 sq. mts. In other words, the effective or net display area to be allotted would be sq. mts. 6, 12, 18, 24, 30 and so on.

Intending participatns requiring space for display of their exhibits should contact the Council along with complete information on the products to be displayed by them, space requirements in terms of sq. mtrs value itemwise, gross and nett weight of exhibits. They should also mention in their application the information about special power requirements, water connection and telephone connections. The Council will try to arrange all assistance in providing these facilities. On receiving full payment at the rate of Rs. 700 per sq. mtr. for covered Space and Rs. 400 per sq. mtr. for Open Space, the allotment of space will be confirmed on "first come-first-serve" basis.

The Organisers shall allocate the space in accordance with the nature of the goods displayed or in the manner they consider best. The Organisers shall reserve the right to re-allocate the space allotted to the exhibitor at any time prior to the commencement of the built-up of the Exhibition should exceptional circumstances demand, and to alter the size and dimensions of the site, to transfer or close entrances and exits to the Exhibition halls and to undertake other structural alternations. Such re-allocation shall be at the absolute discretion of the Organisers and the Exhibitor shall have no claim for compensation as a result of the re-allocation. Last minute entries after the finalisation of locations and designs call for some adjustments.

Design, construction and decoration will be done by the main contractors, taking into account the equipment, the area of display and the overall design and presentation. In addition decoration/construction, can be arranged by the Council provided such required design and construction does not affect the overall design, view and display proposed and subject to the entire payments being made by the participants in advance, once, the request is accepted. No participant shall engage outside or independent contractors.

The freight, handling, forwarding and insurance charges in connection with the despatch of exhibits both by sea and air will be arranged by the partipants on their own and through their own forwarding agents. The Council will arrange return of the exhibits by sea to respective participant on "Freight to Pay" basis after termination of HINDECH'80. Disposal instruction should be clearly indicated

on the face of the invoice by each participant. Exhibits valued at less than Rs. 1000 will not be returned to India primarily because its return is not considered economical.

Industrial Growth and Diversification

Annual Survey of Industries 1976-77

By the end of 1976, there were 81,277 factories in the country, having a total fixed capital investment of Rs. 161,710 million. These factories employed 6.6 million persons, produced Rs. 340,910 million worth of output and contributed Rs. 73,110 million to the national income. This was indicated in the Annual Survey of Industries—1976-77, conducted by the Central Statistical Organisation (CSO). The Summary Results of the Survey have been released by the CSO.

The Survey covers all factories registered under Section 2m of the Factories Act, 1948 comprising units using power and employing 10 or more workers and those not using power and employing 20 or more workers. The Report provides information on principal characteristics such as employment, capital, output and value added besides important structural ratios like fixed capital per employee, value added per employee etc., and technical coefficients like fixed capital to value added, fixed capital to gross output and emoluments to value added. Results are presented by size of employment, capital, ownership and type of organisation.

According to the Survey, the number of factories increased by 13.4 percent as compared to the previous year. The fixed capital registered a rise of about 15 percent. The total value of input and gross value of output and the related item value added by manufacture have shown a rise of 14 percent each. As against this, the number of employees has risen by only 4.2 percent and their emoluments by 5 percent. The 79 factories which employed 5,000 or more persons in 1976-77 had 44 percent share in total fixed capital and generated about 16 percent of the total value added by manufacture. More, than half of the total employment and output were in factories employing 500 or more persons while half of the value added came from factories employing 1,000 or more persons which accounted for only 1.4 percent of the number of factories.

Public sector factories accounted for about three-fifths of the total capital employed in all the factories and contributed 27.8 percent of the value added. About one fourth of the total employment in factory sector was in public sector factories. The private sector factories accounted for about 30 percent of total capital produced, about 70 percent of total output and nearly two thirds of the total value added.

About 72 percent of the factories covered by the survey belonged to the small scale sector i.e. those with an investment not exceeding Rs. 1 million in plant and machinery. The small scale units produced 23.5 the output and 17.0 percent of the value added. Its share in total employment was about one-third. Forty five percent of the factories belonged to the tiny sector i.e. units with an investment in plant and machiner not exceeding Rs. 100,000. These factories accounted for 15.9 percent of the total employment, 8.6 percent of output and 6.2 percent of value added.

The first five industries, measured on the basis of their contribution to the total value added viz., chemicals, basic metal and alloys, cotton textiles, electricity and non-electrical machinery accounted for more than half of the total value added. One out of every five factories was engaged in the manufacture of food products during 1976-77. This industry had the largest share in the aggregate value of output and employment.

Maharashtra was the top most State in respect of fixed capital (16.1 percent), employment (18.2 percent), output (24.3 percent) and value added 24.4 percent). West Bengal occupied second position in respect of employment (13.3 percent), output (10.9 percent) and value added (12.1 percent) but ranked fourth in case of fixed capital. In terms of fixed capital Bihar and Gujarat occupied the second and third position respectively.

Out of the 23 industry groups into which the factory establishments have been divided, Maharashtra has the position of primacy in 16 (food products; cotton textiles; wool, silk and synthetic fibre textiles; textile products including wearing apparel; paper and paper products and printing; rubber, plastic, petroleum and coal products, chemicals, non-metallic mineral products; metal products and parts; machinery and machine tools; electrical machinery; transport equipment and parts; electricity; water works and supply; repair services and other manufacturing industries). Tamil Nadu had a lead in the manufacture of leather and leather and fur products while Andhra Pradesh ranked first in the manufacture of beverages, tobacco and tobacco products; West Bengal in jute, hemp and mesta textiles, Assam in wood and wood products, furniture and nxtures, Bihar in basic

metal and alloys and gas and steam and Uttar Pradesh in cold storage industry.

Hike in Heavy Industry Units Output

The public sector undertakings under the control of the Department of Heavy Industry produced goods worth Rs. 2,318.1 million during the first quarter (April to June) of the current financial year, marking an increase of 17.5 percent over the production valued at Rs. 1973.7 million in the corresponding period last year.

In addition, the turnover of Engineering Projects (India) Limited, a consultancy-cum-contracting company, during the quarter was Rs. 351.3 million, which was over 94 percent higher than the output in the same period last year.

In the month of June, 1979 alone, these units produced goods worth Rs. 889.4 million, showing an increase of 14 percent over the production of the value of Rs. 778.3 million during the corresponding month in 1978.

During April-June, 1979, the production by Bharat Heavy Electricals Limited was valued at Rs. 1378 million which was 89 percent of the target and Rs. 295.3 million higher than the output wirth Rs. 1082.7 million in the same period last year. The Hindustan Machine Tools produced goods worth Rs. 356.4 million, 84 percent of the target, and Rs. 21.8 million higher than production worth Rs. 334.6 million last year.

Richardson and Cruddas Limited marked an increase of 100.4 percent by producing goods worth Rs. 50.9 million during the quarter as compared to output of the value of Rs. 25.4 million in the corresponding period last year. The production of Bharat Brakes and Valves Limited was of the value of Rs. 5.3 million, an increase of about 77 percent over the turnover of Rs. 3 million last year.

Other units which recorded higher production during April-June, 1979, as compared to the same period last year are Mining and Allied Machinery Corporation Limited (18 percent), Burn Standard Limited (17 percent), Bharat Heavy Plate and Vessels Limited (13 percent), Triveni Structurals (6.3 percent) and Bharat Pumps and Compressors Limited (0.3 percent).

Promoting Production of Leather Chemicals

The Union Government will consider applications from intending enterpreneurs for setting up units for production of leather chemicals. The minimum economic capacity of a unit would be 1,000 tonnes.

The objective is to increase the indigenous availability of leather auxiliaries and finishing agents such as fat liquors, binders, lacquers, emulsions etc. Now, there is a considerable gap between the present installed capacity of 4,300 tonnes estimated and demand. When this gap is bridged, it will help achieve 100 percent conversion of the available semi-finished leather into finished leather and leather goods. At present, only 50 percent of the available semi-finished leather in the country is converted into finished leather.

It is hoped that by 1982-83, necessary infrastructure facilities would have been created in the country for the conversion of the entire available semi-finished leather into finished leather and leather goods. This would not only increase employment opportunities but also lead to greater exports.

Normal Excise Procedure for Miscellaneous Goods

Manufacturers of goods falling under excise item 68 will be required to follow normal excise procedure applicable to other assessees working under production based control. This came into effect from August 1, 1979.

In 1975 a resudiary item No. 68 (covering "all other goods not elsewhere specified") was introduced in the central excise tariff. The rate of duty chargeable under this item was fixed then at one percent ad valorem. In view of the nominal rate of duty, manufacturers of goods falling under this item were exempted from following the normal central excise procedure and a special procedure under rule 173-PP of the Central Excise Rules, 1944, was prescribed for them.

Since then duty under item 68 has been successively increased to two percent ad valorem in 1977, to five percent ad valorem in 1978 and to eight percent ad valorem in 1979. The present rate of duty is higher than that applicable to quite a few commodities which are at present governed by the normal procedure. The justification for any special procedure for item 68, therefore, no longer exists. Moreover, the present rate of duty will in itself justify that the control over goods falling under item No. 68 should be such as to ensure that the revenue under it is fully accounted for, which a relaxed system of control may not be able to achieve.

It has, therefore, been decided that with effect from August 1, 1979 manufacturers of goods falling under excise item 68 should follow the normal excise procedure applicable to other assessees working under production based control.

However, some major procedural relaxations given earlier to the manufacturers of goods falling under this

item, have been retained in the case of those involved in turnkey projects, those supplying goods in knocked down conditions and those manufacturing a vide variety of goods falling under item 68.

Some of the important procedural relaxations given under the new rule 173-PP relate to :

(i) acceptance of private accounts in lieu of statutory records;
(ii) grouping of goods for accountal purposes;
(iii) submission of provisional monthly returns;
(iv) waiver of submission of price-list where assessment is based on invoice value; and
(v) procedure for payment of duty where the same is not correctly determinable at the time of removal of the goods from the factory.

India's Improved Position as Fish Producer

India has climbed two steps on the world fishing ladder in 1977, moving from the 8th rank to the 6th rank, according to Vol.1.44 of the FAO Year Book of Fishery Statistics. The FAO Yearbook has listed 157 countries with annual catches o 2,000 tonnes and more; each top-ranking eight having caught more than 2 million tonnes.

Production data for the top eight fishing nations listed in the order of reported/estimated total cacthes in 1977 and 1976 were as under:

Country	*Catch in* 1977	*Place*	*Catch in* 1976	*Place*
Japan	10,733,316	1	10,662,588	1
USSR	9,352,204	2	10,133,670	2
China	6,880,000	3	6,880,000	3
Norway	3,562,213	4	3,435,256	5
USA	3,101,544	5	3,175,558	6
India	2,544,000	6	2,400,000	8
Peru	2,529,995	7	4,343,125	4
S. Korea	2,419,019	8	2,405,266	7

Higher Revenue from Railway Freight Scheme

The Indian Railways realised a revenue of Rs. 84.8 million during 1978-79 by loading 24,712 wagons of goods under the Freight Forwarder Scheme, showing an improvement over the loading level achieved in 1977-78 when 23,547 wagons were loaded bringing in revenue of Rs. 76 million.

The Freight Forwarder Scheme has been in operation on the Railways since 1969. Under this scheme, approved freight forwarders collect and deliver consignments in 'Smalls' from and to the godowns of the individual traders at the forwarding and destination stations and offer these consignments for transportation in wagon loads by rail between specified terminals. The scheme is thus an inter-model service combining the advantages of rail and road transport. The aim of the scheme is to bulk 'Smalls' traffic into wagon loads, to attract additional traffic to rail, to retain rail borne traffic which tends to or may tend to move away from rail and to provide a transport incorporating the advantages of road and rail.

The scheme is advantageous to both the trade and the Railways. As loading and unloading is done by the Freight Forwarder in full wagons, handling of 'Smalls' consignments at booking and destination stations is eliminated. Repacking of the consignments at intermediate points en-route is also eliminated. The Railways get better pay load and turn round for wagons. The freight forwarders are also given necessary incentive by way of rebate according to the number of wagons loaded by them.

The scheme is in operation between ninety pairs of stations on the Indian Railways.

ONGC Intensifies Petroleum Exploration and Production

Oil and Natural Gas Commission (ONGC) which is the principal agency engaged in the exploration and production of crude oil and natural gas

in the country, continued to carry out actively its various activities in the field of exploration, development and production of hydrocarbons in the country. It is continuing its intensive efforts for exploration both onshore and offshore for locating additional hydrocarbon reserves, according to the annual report of the Department of Petroleum, Union Ministry of Petroleum, Cehmicals and Fertilizers for the year 1978-79.

Crude oil production by ONGC during 1978-79 is likely to be approximately 9.6 million tonnes as against 7.54 million tonnes during 1977-78, says the report.

The outstanding achievement of ONGC during 1978-79 was the completion of the work of laying of sub-sea pipelines from Bombay High to Uran and transfer lines from Uran to Trombay as per schedule. Oil and gas started flowing through these pipelines from July, 1978.

Another significant achievement was the discovery of a new gas field north of Bassein structure. The full potential of this discovery would be known after a few more assessment wells are drilled.

South Bassein field which earlier was estimated to have a potential of about 10 million cubic metres per day of gas is also now estimated to be larger than was anticipated earlier and the production from this field would also be more. Thus, the overall gas availability is expected to increase considerably enabling utilisation of this gas for production of fertilizers, petrochemicals, etc.

Exploratory surveys (geological, seismic and gravity magnetic) were continued in Himachal Pradesh, Jammu and Kashmir, Uttar Pradesh, Arunachal Pradesh, Rajasthan, Tripura, West Bengal, Andaman-Nicobar Islands, Andhra Pradesh, Maharashtra, Tamil Nadu, Assam and Mizoram during the field season, 1978-79.

During this field season, 25 seismic, 13 geological, 2 shallow drilling and 5 gravity-magnetic field parties were planned to be deployed for the discovery of more oil and gas. Besides exploratory surveys, ONGC continued drilling and well testing operations on 28 structures on land, 17 in Gujarat, 4 in Assam, 1 in Tripura, 2 in West Bengal, 2 in Himachal Pradesh and one each in Andhra Pradesh and Uttar Pradesh.

During the period April-November 1978, a total of 97,750 metres were drilled and 50 wells were completed. During the remaining part of the year, ONGC planned to start the drilling on new structures, namely, Dahei, Kalamsar and Pansar (Gujarat), Radha (West Bengal) and Charaideo, Barsilla and Barak (Assam).

Besides, drilling at Diamond Harbour Puranpur, Narsapur and testing at Jawalamukhi in Himachal Pradesh are to be continued. Exploratory efforts of the Commission resulted in the discovery of hydrocarbons in the first well drilled in the structures in Gujarat, namely Walner, West Sobhasan, Gajera and West Matwan.

During the period April to November 1978, ONGC produced and despatched a total of 3.68 million tonnes of crude oil from its oil field s in Gujarat and Assam. Crude produced from the Gujarat oil fields was despatched to Voyali refinery and that produced from Assam oil fields was supplied to Gauhati and Barauni refineries through Oil India Limited (OIL) pipeline. During the same period, ONGC supplied a total of about 490 million cubic metres of associated and free gas produced from the Gujarat and Assam oil gas fields.

A new rig 1320 -UE-2 American (Well No. Gojalia-Tripura was commissioned on November 20, 1978.

Drilling was commenced at 6 new structures namely, Walner, Gajera, Ambethi and West Matwan in Gujarat, Holanngepar in Assam and Gojalia in Tripura. As regards production, a 20 cm dia trunk oil line from Lakwa GGS V to junction point of Rudrasagar Lakwa pipeline was commsioned on April 18, 1978. Oil was discovered in West Sobhasan structure in Gujarat in May, 1978. Gas was discovered at Walner structure in Gujarat in June, 1978. Gas was also discovered in Gajera and West Matwan structures in Gujarat.

As regards offshore operations, the report says that during the period April-November 1978, drilling and testing operations were continued on three structures, namely, Bombay High (Main), South Bassein and R-15. Nine new structures were taken up for during the period. To intensify the drilling operations in offshore, a new drilling ship 'Discoverer-III' was hired which commenced drilling during April 1978. Four drilling units namely, 'Sagar Samrat, She nandoah, Gettysburg and Discoverer-III' were thus in operation.

A total of 21,570 metres were drilled and 12 wells were completed during this period. Gas was indicated at B-12 structure in the offshore.

The ONGC's own seismic survey ship 'MV Anweshak' continued seismic and gravity surveys in various offshore areas.

During the year under review, Phase III of development of Bombay High which included laying of the sub-sea pipelines and transfer lines from Bombay High to Trombay and the erection and commissioning of F-Platform was

completed. The rate of production from Bombay High was raised to about 4.5 million tonnes per annum from June 1978.

Presently, Phase III-B of development of Bombay High is under execution which is likely to be completed by September/October 1980. With the completion of Phase III-B, the production from Bombay High is expected to reach about 7 million tonnes per annum.

During the period April to December 1978, ONGC produced a total of 2.152 million tonnes of crude oil from the Bombay High (Main) offshore field.

ONGC's subsidiary, the Hydrocarbons India Limited (HIL), continued to work with Philips Petroleum of USA, AGIP and the National Iranian Oil Company through IMINOCO in the management of 'Raksh' and 'Rostam' oil fields in offshore Iran. HIL's share of oil during 1978 is expected to be of the order of 0.4 million tonnes.

ONGC also continued drilling operations in Iraq under the contract signed earlier on June 25, 1977. As per this contract ONGC is to drill 5 wells. A proposal was given for extension of the drilling contract for another two years. Negotiations were also under way for securing another contract for 3,000 kms. of vibroseis work in Iraq.

ONGC started drilling of SS-4 on May 3, 1978, under a contract with TPDC in Tanzania. The well was drilled down to final depth of 6,600 ft. by August 22, 1978. Production testing of the well was in progress. A fresh contract has been concluded with TPDC for repair and retesting of SS-3 and for drilling of wells for a period of one year by deploying the BU-80 rig already in Tanzania.

Engagement of Foreign Technicians in India

The procedure governing engagement of foreign nationals in technical as well as non-technical fields by Indian firms and companies has been further streamlined, in order to cut down delays and to avoid unnecessary correspondence. As the Government has to take a total view of employment of foreign nationals, including the foreign exchange expenditure resulting from such employment, it has been decided that the Indian firms and companies intending to engage the services of foreign technicians may hereafter apply directly to the Administrative Ministry of the Government of India even if the period does not exceed 12 man-months. After the Government's approval is obtained by an applicant company, the foreign technicians to be employed in India should submit to the Reserve Bank application in form EFN I through the company for permission under section 30 of the Foreign Exchange Regulation Act.

Where technicians are required to be engaged for periods exceeding in the aggregate 12 man-months in connection with the implementation of new industrial projects or for expansion of existing industiral projects, the present procedure for obtaining package approval from the Administrative Ministry of the Government of India for technical services arrangements covering the entire requirements of the project, will continue to be in force.

The Reserve Bank will continue to deal with applications from industrial enterprises desirous of engaging foreign technicians for short periods not exceeding three months for attending to break-downs, overhauling and maintenance of plant and machinery imported from abroad. Such applications should be made to the concerned office of the Exchange Control Department as hitherto.

Science and Technology

Atomic Energy and Food Preservation

Next to its use in generating power, atomic energy's most beneficial application could be in preserving fresh foods or long periods. Certain perishable foods exposed to radiation are found to remain fresh beyond their normal shelf-life. Food irradiation, as this process is known today, is a major breakthrough in food preserving techniques since the development of canning early in the 19th century. It has unique merits over canning, salting, drying and other conventional methods of preservation, and permits the retention of flavour, odour, texture and the other qualities of fresh foods.

The irradiation process is simple. Regulated doses of highly penetrating gamma radiation from a radio-isotope destory the micro-organisms responsible for spoilage in shrimp, Bombay duck, etc. thus prolonging the fresh state of these foods. In India, food irradiation is also being tried out to inhibit early sprouting in onion, spoilage in potatoes, for increasing the shelf-life of mangoes, bananas etc., and to disinfest food crops such as wheat, rice and other cereals.

The application of very small doses of radiation—(6-10 kilorads) (rad is a unit of absorbed energy) can stop sprouting, and reduce dehydration of turbers like potatoes, and bulbs such as onions. As a result, storage losses are cut down and the shelf-life of these semi-perishable agricultural products is enhanced. For India, the world's largest producer of onions, adoption on this new technology could mean major benefits. Apart from

considerably reducing the huge losses (about one third) that take place during storage and transportation, it will help in increasing exports and in stabilising the market price to protect the producer and consumer alike.

Similar advantages will accrue in the case of potatoes, an important source of calories. The development of high yielding, short duration and disease-resistant varieties of potatoes in recent years has led to increased production and consequent problems of storage and conservation.

Irradiation offers the most satisfactory solution to the storage problems of onions and potatoes. Chemicals sprout inhibitors are difficult to apply, are not always effective, and are often objectionable. At an estimated cost of about two paise per kilogram, it could be very economical too.

Low doses of radiation (25-50 kilorads) are effective in delaying the natural processes of ripening in fruits. Thus, shelf-life of mangoes can be expanded by about a week and that of bananas up to two weeks. This could greatly improve the scope for internal trade and increase the export potential of these commercially important fruits of India. There is an added bonus in treating mangoes by this method; the seed weevil, an insect that lodges deep inside the stone of the mango, can be eliminated by the highly penetrating radiation-the only satisfactory solution to a vexing quarantine problem.

With the advent of the green revolution, problems of production are giving way to problems of storage. Huge buffer stocks, especially of wheat, are being built up, necessitating storage for prolonged periods prior to utilisation. Even in the past, with little scope for storage, around 3 million tonnes of foodgrains were lost every year to insect pests alone. With the progressive increase in the quantity and the average storage periods of foodgrains, these losses will escalate unless disinfestation measures are improved.

Low dose irradiation completely kills or sterilises the common grain pests, their pupae, larvae, and even the eggs deposited inside the grains. Chemical disinfestation methods such as fumigation, require repeated application because they do not eliminate the eggs. They may also leave harmful residues in the treated grain. Irradiation, on the other hand, is a one-hot process that is ideally suited for large-scale operations and offers substantial economic benefits.

Fish, the cheapest source of animal protein, is available in plenty all along our 5,000 km coast line and in the high seas. However, the rapid spoilage of the catch and inadequate preservation facilities, limit the availability of sea foods in the interior. Facilities canning and freezing are meagre and moreover, these processes are too expensive to benefit the weaker sections of society.

A variety of processes utilising radiation have been developed in India for extending the shelf-life of shrimp, pomfrets and Bombay duck-important harvests from Indian waters. By selective destruction of spoilage bacteria moderate doses (100 kilorads) of radiation can extend the marketability of iced fish by about two weeks in prime condition. Combination processes with heat and radiation have also been developed to increase the shelf-life at from temperature by several weeks. Irradiation can thus help us to exploit the vast potential offered by our long coast line for improving the nutritional standards of the population.

Adverse climatic conditions, poor post-harvest practices including inadequate storage and preservation facilities, cause heavy losses in India's agricultural and marine produce. Food irradiation offers an effective means of reducing these losses at low cost thereby increasing their availability, stimulating exports and improving nutritional and public health standards.

At the Bhabha Atomic Research Centre in Trombay, food technologists, nutritionists, microbiologists, entomologists and biochemists are together endeavouring to translate research into practical application in this area. This Centre possesses one of the largest and most modern food irradiation and processing laboratories in the world. In collaboration with grower's co-operative and other user agencies, techno-economic feasibility studies have been carried out for some of the processes and it is proposed to set up semi-commercial plants for treating onions, potatoes fruits, grain and sea-foods.

An important aspect of food irradiation relates to whole-someness testing of the treated foods to ensure their total safety and prime quality. For this purpose, multi-generation feeding trails are carried out on thousands of laboratory animals. Consumer panels periodically evaluate quality and acceptability of irradiated foods. Based on similar extensive tests, the USA, Canada, USSR, Israel, Denmark, France, Spain, Japan and the Netherlands have declared a variety of irradiated foods as safe and wholesome for unlimited human consumption. The products include onions, potatoes, grains, fresh fruits and vegetables, mushrooms, dried fruits, dried food concentrates, poultry and meat products. In some countries, radiation sterilisation off the entire diet is recommended for patients who have undergone surgery, and who require to be carefully protected from food-borne infections. The cosmonauts during their space journey were provided

with irradiated bread and other items to ensure that their diets were sterile.

As an essential step towards practical adoption, India too is taking measures to accord health clearances to specific low-dose food irradiation processes.

New Standards Published by ISI

Indian Standards Institution ISI has published an Indian standard specification for electric solenoid operated actuators (IS:8935-1978), which specifies the requirements and tests for ac (50 Hz) and dc electric solenoid operated actuators used for positioning of control valves. Electric actuators are electrically powered devices which are operated by some form of electric control system and are used to position control elements. These are mostly used to position control valves, They may also be used to position various other devices, such as dampers, burners, rheostats, dry feeders, etc. Depending on the operating principles, these electric actuators are classified as (a) electric solenoid operated types, and (d) electric motor operated types.

The ISI has also published an Indian standard specification for steel ingots and billets for production of carbon steel wire rods (IS 8951-1978) which covers the requirements for ingots (including cast billet ingots) and billets (including continuously cast billets) for the production of carbon steel wire rods. With the rapid industrialization in the country, quite a number of mini steel plants have come up. As there is no standard specification available for ingots or cast billets, it is felt that there may be a possibility of sub-standard material being produced in the engineering and constructional purposes which is not desirable. The Ministry of Industrial Development of the Government of India has desired that the mini steel plants should be registered for the manufacture of steel ingots of different categories. In order to assure the quality of ultimate products it has become necessary to issue standards covering these products. This standard is one of the standards published in this series.

Indian Standards Institution has published an Indian Standard specification for alternators for automobiles (IS:8925-1978) which covers basic requirements for specifying, evaluating and methods of testing 12V and 24V alternators intended for automobiles charging systems. This standard is related to alternators or ac generators with diode rectification intended for charging system of automobiles. This standard lays down the methods of specifying the performance, presentation of data and testing of alternators with a view to bring about an acceptable level of quality and reliability. The standards provides for Certification Marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standars Institution.

Further the institution has published the first revision of an Indian Standard specification for flashers for direction indicators for automobiles (IS 4060-1978) which specifies requirements and methods of tests for hot wire type flashers with a lad of two lamps for direction indicators of automobiles having a 6V, 12V and 24V direct current system. This standard was first published in 1967. This revision has been undertaken to upgrade its contents and bring in line with international practice.

The ISI has also published the first revision of an Indian Standard specification for oil pressure switches for automobiles (IS:5439-1978) which covers the basic mechanical and electrical requirements and methods of test for 6, 12 and 24 V hydraulically operated oil pressure switches for use in automobiles. These switches shall operate as the pressure of oil decreases. This standard was first published in 1969. This revision has been undertaken to upgrade requirements and bring in line with international practice.

Towards New International Economic Order

Address the International Seminar on "The New International Economic Order" held recently in New Delhi, the Union Finance Minister has said that the existing international economic order is lacking in many respects; there are serious inequities in this order and the most glaring of these is the widening gap between a few rich countries which enjoy unprecedented prosperity and rising living standards and the vast number of poor countries where poverty has remained acute or tends to grow worse and worse every day. The world is thus divided into the rich and poor nations. This great divide is commonly referred to as the North-South divide because of its broad geographic correspondence.

The Ministry has observed that during the last three decades or more, since the end of the Second World War, there has been a tremendous transformation in the political awareness of the people of the world as a whole. There has even been a growing awareness of the common destiny of makind, of the inter-dependence of nations and the need for co-operation among them and the indivisibility of peace and prosperity etc. In spite of this growing awareness of [illegible] problems of nations and [illegible] prosperity, global income inequalities have widened

another billion to this deficit. In the case of India the latest increase in oil prices has meant an additional import bill of the order of more than Rs.10000 million India's oil import bill in the current year may be in the region of nearly Rs. 30,000 million. This is equivalent to about 3.5 percent of her Gross National Product and will take away more than 50 percent of her annual export earnings. The situation is equally grim for several other non-oil developing countries. The Minister added that this oil price issue was touched upon by him to underline the need for and the importance of economic co-operation among developing countries. In the fight for the New International Economic Order, collective self-reliance in the form of growing economic cooperation among developing countries must be assigned a priorty role. The objective should be to safeguard the interests of the weak and the poor, he added. □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February 23—March 2, 1980
Leipzig Spring Fair, Leipzig (GDR)	March 9—16, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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economic and commercial news

News Highlights

IAAI to Build New Airport in Yemen

The International Airports Authority of India (IAAI) has been awarded a contract by the People's Democratic Republic of Yemen for building an airport project at Riyan. This Rs. 220 million project is IAAI's fifth airport contract abroad, the other being two in Libya and one each in Maldives and Tanzania.

MECON's Overseas Consultancy Services

The overseas consultancy assignments bagged by the Metallurgical and Engineering Consultants (India) Ltd. (MECON) mark a major breakthrough, for Indian steel consultancy and know-how in international field. They relate to consultancy and engineering work for steel plants in Algeria and Syria and development of Syrian iron ore mines.

Permanent Exhibition on India in UK

A new permanent exhibition on India at Commonwealth Institute in London was recently inaugurated. The Institute has been functioning since 1949 as a window

(*Contd. on page* 2)

Export Performance and Potential

India to Help Bangladesh in Railway Development

Rail India Technical and Economic Services Ltd., (RITES), a public sector undertaking under the Union Ministry of Railways, have been awarded recently a prestigious contract by the Asian Development Bank for the study and preparation of the report for the Bangladesh Railway Development Planning Project. In this project, the RITES will be working jointly with TRANSMARK of UK.

The project is for preparation of a detailed investment plan supported by the necessary economic and financial viability studies for a five year plan covering the period 1980-85, keeping in mind a longer perspective. The study will commence immediately and would be completed in nine months. The project is being financed by the United Nations Development Programme (UNDP).

Bangladesh Railways have at present a route mileage of 1786, comprising 1,187 miles of broad gauge and 599 miles of metre gauge. It is the principle mode of transportation for both goods and passengers in the country and handles bulk of the export and import traffic. The Railway was subjected to heavy damage during the liberation war in 1971 and is still in need of major rehabilitation and development to enable it to cope up with the transportation needs of the rapidly developing economy of Bangladesh.

Two other experts from Indian Railways have already been assisting the Bangladesh Railways as advisers since 1976, in the project of rehabilitation of track and bridges on the 200 mile metre-gauge section between Dacca,

on cultures and economies of member nations. The theme of the exhibition is that India is a whole world in herself. The Indian Pavilion shows her industry at all levels indicating the country's enormous scientific and technological skills and resources and their application. It displays the process of change from a predominantly agricultural society to one of the world's major industrialised nations.

Large Indian Participation in ANUGA '79

For the first time, the Coffee Board and the Cardamom Board will participate in ANUGA'79, the world food market. In addition, the Processed Food Export Promotion Council, New Delhi, as well as the Marine Products Development Authority, Cochin, will organise an official Indian participation showing various Indian food specialities including sea-foods. More than a dozen Indian firms will participate in the official Indian stand. ANUGA will be held in Cologne from 8th to 13th September 1979.

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the capital of the country, and Chittagong, the Railway Headquarters, which carries the maximum density of traffic.

India Participates in Impo-Expo Exhibition

India participated in a big way in the London Impo-Expo Exhibition held recently. The Indian stand, which was the largest in the exhibition, displayed automobile parts, handicrafts, carpets, jewellery, brass and EPNS ware, refrigerator and airconditioner components, hand and cutting tools, builders' hardware and leather products.

Nine Indian firms were selected for participation. This was the first time that India's participation has been organised by the TDA. The exhibition was organised by the UK Trade Agency for Developing Countries. Its prime object was to assist third world nations expand their trade principally with Britain and other countries.

Being funded by the European Economic Community (EEC), Commonwealth Secretariat and the British Ministry for Overseas Development, the exhibition was preceded by one week marketing seminar for delegates to assist them to service markets for their goods within EEC. The Impo-Expo was open to trade only.

It may be recalled that the first Impo-Expo Exhibition was held in 1976 in which 42 countries including India had participated.

Indo-Malayasian Submarine Cable Project

An agreement for the setting up of a submarine telephone cable link between Madras and Penang in Malaysia as a Commonwealth venture was signed in Bombay recently. The agreement is between India, Malaysia, the United Kingdom and Sri Lanka on the one hand and the Standard Telephones and Cables Ltd. of United Kingdom which has been awarded the contract on the basis of a global tender.

After the signing of the agreement, Mr. S. K. Ghose, Secretary, Ministry of Communications inaugurated the second IOCON Interim Management Committee, which was attended by delegates from all participating countries.

The project will help India meet the existing and anticipated volume of traffic and also provide a back-up facility for satellite communication services. The link will provide access to satellite earth stations in Kualalumpur, Singapore and Hong Kong working with the Pacific Ocean Satellite and also connect India with the Commonwealth global submarine cable network in the Pacific and Atlantic oceans up to USA and Europe. It is expected to provide uninterrupted reliable and high quality communication throughout the year by direct cable or satellite-cum-cable routes.

The project has been estimated to cost Rs. 302.8 million of which Rs. 223 million will be foreign exchange component. The foreign exchange cost of the submerged cable will be met by a UK grant.

The construction of a cable terminal building in Madras is in progress and is expected to be completed by October this year. The main gateway building is scheduled for completion in 1981.

The participants in this Commonwealth centre are India, Malaysia, Sri Lanka, Singapore, Australia and Canada. India will be meeting 47.5 percent of the cost of the project and OCS will be in charge of the project.

The submarine telephone cable between Madras and Penang will be laid over a route of 2,220 km. The wideband cable will provide 640 circuits for telephone, telex and telegraph services between India and Malaysia and through Malaysia and Singapore with other countries.

The project will be executed in two phases : (i) installation of the submerged cable and repeater system and (ii) provision of a terminal complex at Madras equipped with stored-programme and telex exchanges and associated facilities.

At present India's external telephone, telegraph and telex services are mainly operated via the US Intelsat satellite positioned over the Indian ocean at a height of 36,000 km. Because of its geographical position, India cannot see the Intelsat satellites over the Pacific and Atlantic oceans and has no access to them. The Madras-Penang cable link will make such access possible. While a number of high capacity submarine cables has been laid across the Pacific and Atlantic oceans, the Indian Ocean region has no such cable now.

Display of Marine Products at International Food Fairs

As part of its export promotion programme, the Marine Products Export Development Authority (MPEDA) will be organising direct participation in some of the major international food fairs. Representatives samples of various items of Indian marine products, traditional as well as non-traditional, will be displayed and free samples shall be provided for trade visitors at the MPEDA stands in the fairs. The campaign will also be supported with specially designed publicity literature in foreign languages. The main thrust of this overseas promotional programme through fairs and exhibitions will be directed towards West European markets, a highly potential region for non-traditional export items of Indian marine products. The programme also includes participation in one of the most important food fairs in Japan, the largest market for Indian marine products.

The following are the international food fairs in which MPEDA, has planned to organise direct participation:—

1. 'Anuga 79' World Food Market, Cologne (West Germany)—September 8-13, 1979.
2. Brussels Food Fair, Brussels Belgium, October, 1979.
3. 'ROKA 80'—International Food Exhibition, Utrecht (Netherlands)—February 11-14, 1980.
4. Hoteres and Foodex, 80, Tokyo (Japan)—March 10-14, 1980.

Seafood exporters will be provided with all necessary facilities including deep-freezers for frozen exhibits and interpreters in foreign languages, at the MPEDA stands for effective negotiation of business. For organising these Fairs, the MPEDA will be availing of assistance, wherever possible, from international agencies like the European Economic Community (EEC) and the Dutch Government Centre for Promotion of Imports from Development Countries.

Developing Project Exports

It may be recalled that after looking into the question of the development of project exports, the Commerce Ministry had appointed a high level committee. One of the very important recommendations of this committee was the setting up of in institutional framework resulting in the formation of the Overseas Project Development Committee. The Committee has been constituted under the Chairmanship of the Additional Secretary of the Commerce Ministry together with representatives of other organisation. The main function of this apex body is the monitoring of project exports valuing from Rs. 10 million and above. Post—tender negotiations and post award monitoring would also be included. For tenders exceeding Rs. 100 million datum, the Committee would also go into pre - tender monitoring. Analysis would be carried out on bids both successful and unsuccessful and remedial measures suggested, if any. It would also screen firms which are competing and suggest measures if necessary, for improving the tender information system.

It is worth mentioning that India today has been in a position to secure orders worth Rs. 1600 million and orders worth Rs. 30,000 million are still in the pipeline. This has only been possible because of the keen interest and active consideration shown by this Committee in the development of project exports. Vast opportunities also exist for the further expansion and development in the field of project exports in the Gulf and other third world countries and this needs be utilized to its maximum with the use of indigenous technology.

It may be mentioned that the present import policy is also intended to give fillip to project exports. For the first time, the Import Policy for 1979-80 has identified various types of project exports. These are : (1) Turn-key projects, namely, those which involve the rendering of services like design, civil construction, erection and

commissioning of plant and its supervision along with the supply of equipment;

(2) *Engineering services* contracts involving the supply of services alone such as design, erection, commissioning or supervision of erection and commissioning;

(3) *Consultancy services* contracts which may include the preparation of feasibility studies, project reports, preparation of designs and advice to the project authority on specifications for plant and equipment, preparation of tender documents, evaluation of tenders and purchase of plant and equipment; and

(4) *Civil* constructions contracts with or without preparation of designs or drawings for the civil works to be undertaken.

The import of equipment and machinery envisaged from a third country into the project country, is required to be indicated as part of the project proposal. When the proposal is approved, necessary permission for remittance of foreign exchange out of India will also be given by the Reserve Bank of India after completion of the required formalities. No import licence will be required to be obtained for such third country imports into the project country. The project contractors who require construction equipment to execute the projects which they undertake, may buy such equipment in the project country or from third countries.

Import replenishment licences will be issued for the value of the items exported from India whether or not these are supplemented by third country imports. Option has been given to claim import replenishment either at the rate applicable to the total exports covered by the project or at the rates applicable to individual parts of such exports. This option will be available only in cases where the project contract sets down the itemwise break-up of the prices of the plant. When such a break-up of prices by items is not available, the exporter will be eligible to claim import replenishment only at the rate applicable to the plant as a whole.

Equipment used in the execution of a project overseas, procured from outside India for that purpose, can be imported into India after completion of the project against customs clearance permits which will be issued without calling for indigenous clearance. In the case of automobiles purchases for the execution of projects overseas also, guidelines have been laid down in consultation with the Reserve Bank of India, for their initial purchase as well as their disposal overseas/import into India after the project is completed.

Indo-USSR Trade Relations

The Indo-Soviet trade has witnessed significant expansion during the last two decades under the stimulus provided by the non-convertible rupee payments agreements, entered into between the two countries. The two-way trade has increased from Rs. 721.5 million in 1961-62 to Rs. 10985.3 million in 1977-78. Expanding trade has been mutually beneficial. The Soviet Union has furnished a growing market for India's traditional and non-traditional products.

Growing exports of traditional products such as jute manufactures, tea, tobacco and spices initially helped India to stabilise their prices in the international markets by reducing its dependence on the Western European countries. Further, expansion in exports of traditional commodities enabled India to import capital goods and machinery from USSR without any drain on its free foreign exchange resources. In the wake of the process of industrialisation, India too has provided increasing outlets for the Soviet products, including capital goods and industrial raw materials. Moreover, in view of the new emerging requirements of both the countries, the pattern of trade is constantly undergoing the necessary changes.

India's exports of non-traditional products are also gaining ground. Some of the new items have already made dent into the Soviet market. Mention may be made of engineering products whose exports have spurted from Rs. 73.3 million in 1972-73 to Rs. 273.7 million in 1976-77. Important specific export items included in this products groups are : EPNS ware, sanitary fittings, wire repes, brass utensils, bicycle parts, auto parts, machine tools, diesel engines and parts, hand tools, cutting tools, air compressors, electrical power machinery, dry and storage batteries and cutlery. Tobacco manufactures, clothing , footwear, chemical elements and compounds, pharmaceuticals, dyeing, tanning and colouring materials and vacuum flasks are the other products which too have been added to India's export list for the Soviet Union. It is in respect of these new items that a major emphasis is being laid to promote their exports to the Soviet Union.

Similarly, India's imports from USSR have also undergone change in conformity with, Indian requirements which have been necessitated due to the industrial progress achieved in India. Instead of capital goods, emphasis is now being laid on imports of non-ferrous metals, fertilisers, petroleum and petroleum products.

It is of much interest for intending Indian exporter to have some basic knowledge about the import regula-

tions, customs tariffs and taxes, marketing methods, price quotations, documentation etc. As regards import regulations, it may be mentioned that all commercial imports into the Soviet Union are subject to licensing. The granting of a licence enables the importing organisations to pay for imported goods.

As commercial imports into the Soviet Union are undertaken only by State Organisations, exporters need not take import duties into account. The Foreign Trade Corporations themselves clear the goods through the Soviet Customs. Customs duties are usually levied only when individuals import goods privately by way of gift parcels or in small non-commercial quantities when returning from travel abroad.

The documentation requirements are specified by the Foreign Trade Corporations which place orders. Neither certificates of origin nor consular invoices are normally required. There are 35 Foreign Trade organisations concerned with foreign trade operations, depending upon the products alloted to them for imports and exports.

Method of doing business with the Russian foreign trade organisations, depends upon as to whether these foreign organisations are interested in buying from overseas. One of the effective methods of market promotion in the USSR is through contacts with the foreign trade corporation. Participation in the Soviet exhibitions is another method of bringing the products to the notice of foreign trading corporations. These exhibitions provide effective means of making contacts with a large number of technical specialists, enterprise managers and engineers and officials on whom buying decision ultimately depend.

Almost invariably the USSR buys on f.o.b. basis and sells on c.i.f. basis. A strict interpretation of f.o.b. means that when goods are carried by sea, the purchaser is responsible for the freight charges. The charges which arise in the port of embarkation are borne by the suppliers. The Russians interpret f.o.b. strictly in this sense.

Cumin Seed Exports to Japan

Cumin seed is an important foreign exchange earner. About 1,816 tonnes of cumin seed valued more than Rs. 280 million have been exported to overseas countries, mainly to Japan, Nepal, UK, USA etc., during 1978-79. During the last seven years, India's export of cumin seeds to Japan has been as follows:

Year	*Quantity*	*Value*
	(in Tonnes)	*(in Rs.'000)*
1972-73	238.88	1,102.11
1973-74	635.85	5,367.74
1974-75	259.98	2,839.51
1975-76	290.07	2,538.56
1976-77	204.22	2,814.88
1977-78	197.58	3,798.24
1978-79	273.63	5,703.44

According to information from the Indian Mission in Japan, there is no import restriction on cumin seed and import duty is free. Total import into Japan of seeds of anise, badian, fennel, coriander, cumin, caraway and juniper from India during 1978 was to the tune of 7,92,251 kgs. valued at about Rs. 174.4 million.

It may be mentioned that cumin seed is one of the important spices which is used as a popular flavouring, from ancient times. Cumin was well known to ancient civilizations, for it has been cultivated since earliest times. It was included in the list of medicinal plants used in Egypt and recorded in the Ebers Papyrus (1550 BC). It is referred to in the Bible in both the Old and New Testaments: for example in Isaiah 28:27 "For the fitches are not threshed with a threshing instrument, neither is a cart wheel turned about upon the cumin; but the fitches are beaten out with a staff, and the cumin with a rod." Today the cumin is still threshed with a rod on many primitive farms of the eastern Mediterranean region."

In the first century cumin was referred as the best appetizer of all the condiments. During the Middle Ages in Europe, cumin was a popular flavouring, one steeped in superstition. Records tell us that in A.D. 716 cumin was used in monasteries in Normandy. It has been utilized as a condiment in England since the thirteenth century.

Improved Performance of an Indian Firm

M/s Tata Exports Limited won the All-India Rotating Shield of the Engineering Export Promotion Council in recognition of its outstanding export performance during 1977-78 among export houses and merchant exporters in the country.

The Council in its award citation said that the phenomenal growth in Tata Exports' turnover-from Rs. 114 million that the phenomenal growth in 1968-69 to Rs. 1060 in 1978-79 spoke for its enterprise and capability. With a good record of fair trade practices, strict adherence to quality standards and consistent growth and diversification, the Company is regarded as one of the leading export houses in India.

The Company has, in recent years, focussed attention on turnkey projects and has already established a proven record of performance.

The Council also noted that the Company, through its own efforts, had established an efficient overseas organisation. The joint ventures promoted by it and the resident representatives posted in a number of countries, supported by the Tata Companies overseas, hav helped in building an image of India's industrial progress.

Indo-Canadian Financial Cooperation

India will receive rapeseed oil worth C $ 15.00 million (fob) (Rs. 105 million) from Canada as grant during the current financial year.

Canada will also provide additional finance upto C$ 5 million for covering the shipping cost of the oil, making a total grant of C$ 20 million.

A memorandum of understanding to this effect was signed recently by Dr. Manmohan Singh, Secretary, Department of Economic Affairs and Mr. R.L. Rogers, High Commissioner for Canada in India.

Canada has been providing such grants for rapeseed oil from 1972-73 onwards. The import of the oil and its distribution will be arranged through the State Trading Corporation of India. (STC).

Exchange Facilities for Accountancy Studies in UK

An an annual feature, Reserve Bank of India has decided to grant foreign exchange facilities to a limited number of students who wish to proceed to the United Kingdom to serve articleship with firms of Charterred Accountants with a view to appearing for the examinations conducted by the Institute of Chartered Accountants in the U K. To qualify for release, candidates should be graduates with good academic record and must have made arrangements with reputed firms of Chartered Accountants in the UK agreeing to accept them as Articled Clerks on a reasonable stipend not below £. 1,500 per annum. The standing of the U K firm offering articleship will be taken into account in considering the applications. Applications on the prescribed form for release of exchange are xequired to be submitted to the Controller, Exchange Control Department, Reserve Bank of India, Central Office, Bombay.

The application is to be supported by letter received from the firm of Chartered Accountants agreeing to accept the candidate as an Articled Clerk and indicating the remuneration payable during the entire period of Articleship. Candidates who are required to pay premia/deposits on admission to articleship will not be considered. Candidates whose applications are approved will be released exchange to the extent of the shortfall between Sterling Pounds - U S $3,000 and the net remuneration received by them from the U K. The selected candidates, who are required to undergo a Foundation Course under the current rules of the U K Institute, will also be relcased additionel exchange for maintenance and tuition fees, on production of documentary evidence of their having obtained confirmed admission to the Foundation Course.

Industrial Growth and Diversification

Output of Industrial Enterprises Go Up

The public sector undertakings under the control of the Department of Industrial Development produced goods worth about Rs. 107.4 million during the month of June 1979, marking an increase of about 8 per cent over the output valued at Rs. 99.40 million in the previous month and 1.62 percent over the production worth Rs. 105.6 million in June, 1978. Cumulatively. the production by these enterprises during the first quarter /(April-June) of the current financial year was of the value of Rs. 280.1 million.

The units which recorded higher production during June, 1979 as compared to the corresponding month last year include the Cement Corporation of India (86.15 percent), Instrumentation Limited (51.39 percent), Tannery and Footwear Corporation (16.07 percent) Rupnarainpur Uni of Hindustan Cables Limited (16.54 percent) and National Nwsprint and Paper Mills Limited (1.56 percent).

More Steel for Engineering Units

Steel supplies to the engineering export sector in the first quarter of the current financial year have recorded an increase of about 20 percent over the supplies in the corresponding period last year. The continued rise in steel supplies over the past year enabled this sector to export engineering goods worth Rs. 6850 million in 1978-79.

In order to maintain the tempo of engineering exports this year and to help liquidate the arrears of supplies due to the exporting units on the basis of a careful analysis of export contracts, the Steel Authority of India Limited (SAIL) has been asked to make special arrangements to supply to the engineering export units 10,000 tonnes of wire rods; 15,000 tonnes of structurals and 12,000 tonnes of plates from both the steel buffer stocks and indi-

genous production during the period, July to September, 1979.

Last year, supplies of pig iron to the export sector rose from 36,263 tonnes in 1977-78 to 106, 125 tonnes, and of steel, from 141,588 tonnes in 1977-78 to 173,457 tonnes in 1978-79. These figures exclude the supply of hot rolled (H R) coils, which were supplied additionally to the extent of about 150,000 to 200,000 tonnes in 1978-79, as also in the previous year.

Supplies to the organised private sector of the engineering industry amounted to 1.361 million tonnes, which represented 37percent of the total steel supplies to the economy in the relevant categories during 1978-79. In 1977-78 the sector received 1.183 million tonnes, of finished steel from the integrated steel plants, representing 34 percent of the total supplies made to the economy as a whole, again in the relevant categories. Without such a continuous step-up in the steel supplies, the engineering industry could not perhaps have achieved the growth rate of 13.8 percent last year.

To further streamline supplies and to help the engineering industry to procure imported steel, to supplement indigenous availability, in the current year's import policy, IS-2062 plates and structures have been placed on open General Licence (OGL). In response to representation from the engineering industry, it has been decided to place both boiler quality plates and non-grained oriented cold rolled electrical steel sheets also on OGL. Certain types and specifications of stainless steel plates, which are not indigenously producec, have been freed from import control, to help the industrial machinery sector, particularly those engaged in the manufacture of dairy and chemical equipment.

Duty Exemption on PVC Resin Extended

It may be recalled that in view of the accute shortage of PVC resins in the country and to make available PVC resins to the industries at reasonable prices, Ministry of Finance had exempted PVC resins from the whole of the basic customs duty. However, this exemption was made valid upto August 31, 1979 only.

Keeping in view the continued shortage of PVC resins in the country, it has been felt that the import of the same would have to be continued for sometime more. Accordingly the Union Ministry of Finance have extended the customs duty exemption on PVC resin upto March 31, 1980. However, countervailing duty of excise and auxiliary duty (cummulative 47 percent) will be leviable.

Improved Performance of MEC

There is notable increase in the output and productivity of the Mineral Exploration Corporation (MEC), a public sector undertaking, which is likely to earn a net profit of Rs. 15.2 million, according to the Corporations estimates of financial results for the year 1978-79. MEC had earned a profit of Rs. 10.2 million in 1977-78, which enabled the undertaking to wipe out accumulated losses of the previous years. During 1976-77, the Corporation had earned a profit of Rs. 10.5 million.

The higher profit is largely due to the substantial increase in output and productivity achieved during 1978-79. Drilling and mining targets set for the year were exceeded and MEC drilled nearly 187,163 metres last year against the revised target of 182,700 metres for the year 1978-79. The original drilling target of 157,600 metres was revised upwards to 183,700 metres subsequently, since the adoption of new techniques had enabled the Company to push up productivity in terms of drill per month from 99 metres in 1976-77 to 130 metres in 1978-79. Targets could thus be exceeded without any addition of capital equipment.

The Corporation's activities during 1978-79 were spread over 60 projects, Of these, 54 related to mineral investigation, 4 to mine construction and two were geotechnical studies. A beginning was made in the field of engineering geology by undertaking drilling for foundation studies in connection with Dihang and Subansiri Projects of the Brahmaputra Flood Control Commission. MEC also established reserves of about 134.66 million tonnes of bauxite, 1385.96 million tonnes of coal and 7.92 million tonnes of iron ore during 1978-79, supplementing the work being done in this field by the Geological Survey of India (GSI).

As regards the current year, the programme envisages 189,900 metres of drilling for exploration and 8000 metres of mining, including mine construction work in the leasehold areas of the Manganese Ore India Limited(MOIL) and the Hindustan Zinc Limited (HZL). The major work this year continues to be in coal and bauxite, and substantial work is also being done in respect of chromite and manganese. It is also proposed to commence work on the exploration of gold in the Kolar Schist belt to augment the existing reserves.

Petroleum Products Prices Revised

The Government of India ordered increases in the prices of almost all petroleum products with effect from August 17, 1979. The decision to increase prices was taken

recently in the wake of unprecedented increases in the prices of crude oil and petroleum products in the world market.

Naphtha, fuel oil and low sulphur heavy stock (LSHS) used as feedstock for the fertiliser industry and lubricants of various grades have been left untouched. While feedstocks for fertiliser industry have been exempted from price increase to prevent any escalations in the prices of fertilisers in the interest of agricultural production, lubricants have been protected because they are already very highly priced in comparison with other products.

The price increases will raise the basic prices of both kerosene and high speed diesel oil (HSD) by 17 paise per litre. Light diesel oil (LDO) will go up by 32 paise per litre and motor sprit (petrol) by 35 paise per litre. The prices of fuel oil and LSHS used for purposes other than the fertiliser industry will go up by 32 paise per litre. Naphtha for non-fertiliser uses will cost Rs. 1.47 more per kilogram.

Aviation turbine fuel (ATF) price will be raised by 74 paise per litre and bitumen price will go up by 50 paise per kilogram. The price of liquified petroleum gas (cooking gas) is being incresed by Rs. 5 per cylinder of 15 kilograms.

In respect of a number of other special products such as benzene, jute batching oil, raw petroleum coke, carbon black feed-stock, phenol extract, aromax and solvents, an increase of 25 percent over their selling prices has been ordered.

The end prices for the consumers will be slightly higher due to sales tax, octroi and other State levies, if any.

It may be recalled that increases in international crude oil prices have been taking place almost continuously since the beginning of the year as a result of price escalations announced by the Oil Producing Exporting Countries (OPEC) in December,1978 and April and June, 1979. The tightning supply position in the oil market has also contributed significantly to this trend. The persent world prices of crude oil and products are, on an average, about 70 percent higher than what they were eight months ago.

The additional burden placed on the national economy as a result of these developments is estimated to be of the order of Rs. 11,500 million for the current year. A significant decision taken is permitting additional exise duties levied in March last on kerosene, HSD, motor spirit and LPG to be treated as price increases. These duties were estimated to yield around Rs. 2800 million during the course of the year. As a result of the decision to treat these duties as price increases, the additional revenue needed to be unavoidably raised by further price increases stands reduced to around Rs. 8700 million. The price increases decided upon recently are expected to generate resources of that order.

It is hoped that increases ordered will lead to a realisation that oil supplies are under increasing pressure and that there is need for using all petroleum products with the utmost economy.

Computing Power Steps Up

According to the annual report of the Department of Electronics for the year 1978-79, the computing power in the country increased during this period with greater availability of access to larger systems. During the year, 31 computer systems (mostly mini) were cleared for import for applications in the nature of education, software, export, regional facilities, research and development, management of large operations, production planning and management.

Promotion of appropriate computerisation was taken up through Regional Computer Centres. The Regional Computer Centre, Calcutta, located in Jadavpur University, is being used by more than 70 users. A second regional Computer Centre is being set up at Chandigarh to meet the requirement of the States of Punjab. Haryana, Himachal Pradesh and the Union Territory of Chandigarh. An ACL-1904 $ computer system is presently under commissioning at Pune.

The National Information Centre has made considerable progress towards its objective. Sixteen information systems have been/are being developed for various Government Ministries. The large maxicomputer is to be commissioned by October this year.

The report says that the Computer Maintenance Corporation (CMC) considerably built up the manpower and spares inventory to meet the situation arising from the ceasing of the operations of IBM with effect from June 1, 1978. The Corporation is now in a position to offer a complete package of services including installation, commissioning, maintenance, software and systems support to many different types of the latest and sophisticated computers.

The technology development projects funded by the Department of Electronics have made a significant impact in terms of diversifying the product range in the country, modernisation of techniques used for electronic development and production, capability of handling high technology projects of interdisciplinary nature. During the year, 23 new projects have been initiated under the purview of TDC.

The National Radar Council drew up plans relating to propagation studies, meteorogical radar network for civilian and defence sectors, overall requirements for sonars and other underwater electronic systems.

The Department of Electronics has been interacting with the Departments of Space, Meteorology and Ministry of Communications to provide ground electronics for the satellite communication system and project MONEX.

Record Movement of Foodgrains by Railways

The Railways have moved a record quantity of foodgrains (wheat and rice) to West Bengal during the first seven months of the current year. The Railways have also fully achieved the increased target set for the movement of sponsored foodgrains to the North Eastern region.

The loading of foodgrains to West Bengal stepped up from 67,848 tonnes in the month of January to 170,000 tonnes in July 1979. The loading to West Bengal during the first seven months of the year was 868,000 tonnes as compared to 56.2 million tonnes during the same period last year. From January to July 1979, Railways loaded 517 specials of sponsored foodgrains to West Bengal.

Against the normal monthly despatch of 50,000 to 60,000 tonnes of foodgrains to the North Eastern region, the Railways despatched as much as 90,000 tonnes in the month of June and 105,000 tonnes in July. During August also, the despatches are being maintained at the level of month of July.

The movement of government sponsored foodgrains in the country, mainly from the Punjab and Haryana, has been at a level higher than the last year. The clearance in the first three months of the current financial year was 1.92 million tonnes as against 1.65 million tonnes last year.

The loading of foodgrains to various States is programmed in fortnightly meetings conducted by the Food Corporation of Indian wherein the representatives from the Railways and the recipient States are also present.

While programming movement for various States, due consideration is given to the current situation such as labour position, stocks already in the pipeline, operational difficulties etc. The number of specials, therefore, vary from fortnight to fortnight.

Increased Sugarcane Production

There was a record production of over 180 million tonnes of sugarcane during 1977-78. This year the production is estimated to be somewhat lower although there are no accurate area statistics for sugarcane. There are reports that the area under sugarcane may be less.

A six point programme suggested to increase the production of sugarcane includes-to ensure availability of fertilizers and insecticides at the distribution points and to provide credit facilities to farmers whenever necessary to purchase inputs application of the balanced dose of fertilizers to the cane crop for obtaining best results; farmers to be persuaded to apply adequate irrigation to their crop during pre-monsoon period to increase the efficiency of fertilizers used; advance action to be taken for stock-piling of the insecticides and gearing up of the plant protection squads for meeting any Pyrilla pest attacks during August-September, in case the pest appears in an epidemic form. The area under cane to be suitably increased for increasing production during 1980-81. In this connection, it will be necessary to plan an increase in cane area under Adsali/Autumn planting during 1979 itself and to educate farmers regarding sugarcane situation and measures they should adopt for augmenting cane production and necessary mobile training teams to be organized and propaganda through the media of radio, television and publicity material to be carried out.

The centrally sponsored scheme of sugarcane development has now been transferred to the State sector. The scheme was initiated during 1975-76 in 16 States and two Union Territories covering 250 sugar factories and a cane area of 379,000 hectares. One of the main components of the scheme was the production and distribution of disease-free nutrient-rich seed-cane, raised after initial heat therapy. As a result of various efforts made in this respect under the scheme, some seed has gone for commercial planting during 1978-79 for the production of sugarcane. Necessary infrastructure by way of hot water and hot area plant has been created. The efforts initiated for the production of healthy seed-cane under the scheme need to be continued and intensified for improving both production and productiveity as well as the quality of sugarcane crop.

Upgrading Production Facilities at BHEL

Amongst the public sector units, Bharat Heavy Electricals Limited (BHEL), has maintained its position not only as the largest engineering unit in the country, but it also now ranks as the seventh largest unit engaged in the manufacture of electrical equipment in the world. The products manufactured by BHEL include hydro-turbines and generators, thermal turbines and generators, utility and industrial boilers, transformers, switchgears, electric drives and controls,

traction motors, high speed drive turbines and compressors, onshore oil drilling rigs valves etc. During 1978-79, its new transformer unit at Jhansi and the Central Foundry and Forge Plant at Hardwar became fully operational. The implementation of its seamless steel tube project is as per schedule and is expected to be completed by July/August, 1979, according to the annual report of Union Ministry of Industry for the year 1978-79.

The two sick units in Bangalore, namely, Radio and Electricals Manufacturing Company (REMCO), and Mysore Porcelain Limited, taken over by BHEL have been nursed back to good health. REMCO has been developed as production centre for sophisticated thyristor control devices and production of Mysore Porcelain has been stepped up and upgraded. Production of oil drilling rigs was further consolidated by BHEL during the year.

In keeping with Government's emphasis on the importance of research, design and development as an essential back-up for a growing organisation and for quicker assimilation of imported technology, BHEL is setting up a corporate research, design and development centre at a cost of about Rs. 170 million at Hyderabad. The project taken in hand in 1976-77 is expected to be completed in 1980. Pending completion, some new products and processes have already started flowing out of the centre. A large number of projects have already been farmed out to research laboratories and institutions.

An ultra high voltage laboratory has also been added by BHEL at Bhopal. This would not only provide BHEL and other with an important back-up facility but also help them to move over to the higher than 400 KV equipment and transmission accessories when the need arises.

Welding technology being an important input for engineering products, particularly such as for high pressure boiler and vessels, a Welding Research Institute has been set up by BHEL with UNDP assistance at Tiruchy, the first of its kind in the country. This would lend support not only to BHEL and other public sector units but also to engineering industry as a whole. The Institute is already functioning.

The organisational structure of the company with a number of divisions is designed to achieve the requisite specialisation and render satsifactory all round services to their customers with regard to erection, commissioning, after sales services and so on.

Whereas in the Fourth Plan the share of BHEL, in the generating capacity added in the country, was about 25 percent, during 1974-78 its share increased to 85 percent and in 1977-78 to 97 percent. As a result of moving over from being a mere supplier of hardware to that of total systems, BHEL is in position to provide total service from concept to commissioning. Taking into account its increasing responsibilities, BHEL's efforts are directed towards keeping pace with the customers looking for more sophisticated and larger unit size equipment. Several new products have also been developed by the company.

While the pesent growth centres are being constantly upgraded, expanded and reorganised, the major programmes taken up by BHEL include upgradation of its manufacturing facilities to manufacture 500 MW turbo sets and expansion of its Boiler Plant at Tiruchi to 4,000 MW equivalent of boilers. In the latter case, in order to achieve such a level of production in one plant, separate production centres, providing for further growth are envisaged to be set up for items like non-pressure parts for boilers, fants bowl mills for coal pulverisation and valves which were hitherto concentrated only at Tiruchi. The production facilities at all other production centres are also being upgraded.

BHEL has also emerged as the largest exporter of engineering sophisticated equipment. It has received several repeat orders for boilers from Malaysia, turn key contract for a complet 240 MW power plant in Libya, hydro generator to New Zealand etc. It has also won most of the recent contracts for utility boilers, turbines and ammonia compressors etc. against World Bank tenders, payments for which are to be made in foreign exchange.

Sale of Foreign Exchange Clarified

Under the exchange control regulations in force, authorised dealers in froeign exchange and money-changers are permitted to purchase foreign currency notes even from persons normally resident in India, besides tourists on temporary visit to the country. This freedom has been allowed to facilitate exchange into Indian rupees of foreign currency notes received by such persons from foreign visiting tourists in genuine circumstances.

While no hindrance thus exists in the way of the public exchanging foreign currency (received in genuine circumstances from overseas tourists) in this manner, it is an offence under the Foreign Exchange Regulation Act if the foreign exchange so acquired is retained by any person or sold or lent to any person other than an authorised dealer or money-changer.

This clarification has been made by

the Reserve Bank, as there seems to be an impression amongst the public that exchange of foreign currency into Indian rupees through authorised dealers by persons normally resident in India is subject to restrictions.

Science and Technology

Indigenous Technology for Copper Ruby Crystal Glassware

The manufacture of crystal glassware, including cased crystal ware, i.e. those having thin layer of coloured glass on the body of colourless crystal glassware has been taken up in the country recently. On decoration of this cased ware by the well-known 'cutting technique, a bright sparkling white flowery or other pattern appears on a coloured background. The product is a captivating novel tableware. In this category, the most attractive product, capable of fetching the highest price of all coloured case ware and the most sought after in local and foreign markets is copper ruby crystal glassware. Work was started at the Central Glass and Ceramic Research Institute (CGCRI), Calcutta, under a research scheme sponsored by the Council of Scientific and Industrial Research (CSIR) for the production of copper ruby crystal glassware. The institute has worked out the requisite know-how. This is reported in the Technology Awareness Service of CSIR.

In the process developed, the base glass used by the industry for making uncoloured crystalware is not changed. It has a distinct advantage over the earlier processes for making copper ruby glass articles, etc. in which mostly ingredients like zinc oxide and boric oxide, etc. had to be incorporated, thereby raising the cost of the base glass, in some cases by as much as 50 percent. To the base glass batch mixture used for making uncloured crystalware are added minor ingredients for imparting ruby red colour. The resulting mixture of raw materials is melted in a pot or tank under a controlled furnance atmosphere for an appropriate period till it is ready for working. The copper ruby glass melt is then applied as a thin film on the colourless glass got by technique already in use in industry for making cased ware of other colours. After shaping by hand-operated or semi-automatic methods, the glass ware is annealed under an appropriate temperature-time-schedule to get the required ruby red colour. In a cased crystal ware, the coloured glass is present only as a paper thin film on a colourless crystal glass body. In this extremely thin film, an intense bright red colour can be produced by only copper ruby glass. Selenium ruby glass is not suitable. It is for this reason that copper ruby glass is used in advanced countries for pr ducing cased crys al table ware. The latter can now be manufactured in the country by using the copper ruby crystal glass made by this process. The new glass can also be used for making through-coloured cystal glassware. This glass melt could be further shaped to produce thick rods for supply to those manufacturers of copper ruby cased ware who do not want to invest in making (melting) copper ruby glass from batch.

Respirators Developed

The Health Division of the Central Mining Research Station, Dhanbad (CMRS) has successfully designed and developed three types of respirators for protecting workers exposed to ammonia, gas, acid gases and dust, according to the Technology Awareness Service of the Council of Scientific and Industrial Research. Respirators of these types of indigenous make which are already available in the market are inferior in quality and do not conform to the minimum safety specifications laid down for such items.

Each of the newly developed applicances when put to elaborate and meticulous tests both at the Central Mining Research Station and the Central Labour Institute, Bombay showed satisfactory performance in terms of resistance and filtration. The efficiency of the applicances was found to be well above the minimum required standards stipulated by the Indian Standards Institution and the United States Bureau of Mines.

With these developments, the problem of providing workers exposed to dust and ammonia as well as acid gases with approved quality of safe respirators will be solved. The know-how for the production of these items has already been handed over for commercialisation.

Weather Measuring System Developed

The Systems Engineering Division of the National Aeronautical Laboratory Bangalore (NAL) has developed a weather measuring system comprising a digital thermometer and an infrared type hygrometer for air-borne use for measuring temperature and specific humidity in and around clouds to determine the possibility of seeding them for artificial rain making in the experiments proposed at the Sharavathy Catchment Area by the Mysore Power Corporation. The system can also be used for mounting on masts for meteorological measurement of changes in humidity in the atmosphere.

A digital thermometer developed for the system is used for measuring the outside air temperature from an air-

craft from ground level up to an altitude of 3,500 metres. It consists of two interchangeable probes for the measurement. One is the total temperature probe, which comprises an outer rear casing of stainless steel with a flange attached for mounting on the wing. The other probe is housed in vortex chamber providing compensation for aircraft speed. The thermocouple amplifier is designed with an ultra-low drift operational amplifier type BB 3500 E, set to a gain of 100. A zero offset adjust is provided at the inverting input by means of a potentiometer. There is provision for manual correction for the speed of aircraft. The output of the amplifier is attenuated by means of a potentiometer, the voltage output available at the wiper is displayed digitally by a 31/2 digit DPM (AD 2001) which reads the temperature in centrigrade degrees with a resolution of 0.1 degree. The thermometer is calibrated at two points—the melting point of ice and the boiling point of water.

The infra-red hygrometer using the principle of absorption spectra analysis of water vapour in air is developed for measuring atmospheric humidity at 0-20 milligrams per gram. The unit has a good response and can be adopted for airborne applications. It consists of two narrow band IR filters of different but close wave lengths, one of which is the absorption band of water vapour and the other side of it a beam of IR light is used which serves as humidity sensor. The IR filters chop the IR beam alternatively and the intensity of light is received by the PbS cell at a fixed distance from the IR source. The ratio of the two intensities is a function of absolute humidity/specific humidity of the air in the path of light, and is measured by the amplifier associated with the PbS cell. It is then displayed by a calibrated panel meter.

ISI's New Standards

Indian Standards Institution has published Indian Standard guidlines for co-ordination of dimensions in shipbuilding : Part II Glossary of terms, IS:8712 (Part II)-1978 which covers terms and definitions relating to dimensional co-ordination in shipbuiling. The rationalization of traditional shipbuilding methods and the increased use of prefabricated assemblies necessitates the utilization of standardized components wherever possible. It is essential to co-ordinate the dimenions of these components and of the assemblies incorporating them.

It is envisaged to introduce the system of dimensional co-ordination similar to that prepared for land use. The system will give module sizes, controlling dimensions, recommendations for co-ordinating spaces, etc., for use in dimensional co-ordination.

In the adoption of dimensional co-ordination, the fullest possible clarification of the concepts involved and terms expressing those concepts is essential and this Indian standard is intended to promote such understanding and avoid any ambiguity.

Indian Standards Institution has published the first revision of an Indian Standard specification for synthetic detergent powders for household use, IS:4955-1978, which prescribes requirements and methods of sampling and test for synthetic anionic detergent powders for household use. Synthetic detergents produced in this country at present are mainly of the alkyl aryl type, such as sodium salt of alkyl benzene sulphonic acid. In India, the production of synthetic detergent powders started in the organized sector, but now a large number of small scale units are also producing them. A large tonnage is being produced by small scale sector by dry mixing of various ingredients; such powders have higher bulk density as compared to those produced by spray drying process.

This standard was first published in 1968 and covered primarily the spray dried powders. In this revision two grades of the material are prescribed and these cover powders produced by organized sector as well as small scale sector. In this revision, the requirements for matter insoluble in alcohol and non-detergent organic matter have been dropped. The limit and the method of test for matter insoluble in water has been modified. For determination of active ingredient a volumetric method in place of a gravimetric method has been included. Indian Standards Institution has published the first revision of an Indian Standard specification for EC grade aluminium rod produced by continuous casting and rolling (IS: 5484-1978) which covers the requirements for EC grade aluminium redraw rods, 9.5 mm in nominal diameter, produced by continuous casting and rolling for electrical conductors. This standard was first published in 1969 in view of the increasing demand for EC grade aluminum rods produced by continuous casting and rolling process, such as Properzi by the conductor and cable industry and also due to the fact that there are a number of established manufacturers in this field in the country. A revision has now become necessary to include the requirements of an additional grade of aluminium rod with a controlled Si/Fe ratio which is also suitable for production by continuous casting and rolling.

Indian Standards Institution has published the first revision of an Indian Standard specification for mobile library van (IS:2661-1978) which covers

the basic requirements of a mobile library with regard to its dimensions and layout of the interior. With constant and rapid advances in all fields of human knowledge, to lead a successful life, one has to keep oneself constantly informed of latest developments. This continued self education is possible only through use of libraries. Library service has therefore attained a vital importance these days for a civilized citizen. But the location of a library cannot favour all concentrations of population in big sprawling cities or in the countryside. In many cases the size of the community does not justify, or the financial inability of the library authority prevents the setting up of a branch of the library. In such cases, a mobile library acts as the extension arm of the library which takes the library service to those who find it difficult to reach the library, especially women and children, who are less mobile.

This standard is intended to provide necessary guidance in regard to the requirements of a mobile library which is a power-driven vehicle on four wheels and is either with a fixed engine or pulled as a detachable trailer. The requirements specified in this standard relate to the bus body (and not the engine, whether fixed or detachable) in Indian conditions.

The specification is meant for mobile library vehicles having book shelves inside the vehicle as opposed to shevles fitted on the exterior of the bus body.

This standard was first published in 1964. In view of the appearance of new materials and techniques, the Sectional Committee has felt the need to revise the standard. In this revision, the layout of van has been modified to avoid practical difficulties encountered by the users. The capacity, the constructional aspects and service features have also been revised to provide for additional facilities to users.

Growth of Fertilizer Industry

According to the annual report of the Department of Chemicals and Fertilizers for the year 1978-79, there are 26 large-sized plants in the country at present producing nitrogenous and complex fertilizers, one plant producing triple superphosphate and 29 small units producing single superphosphate. Nangal Expansion and Trombay IV plants also started regular production during the year under report, raising the total installed capacity to 3.26 million tonnes of nitrogen and 1.1 million tonnes of phosphoric pentaoxide (P_2O_5).

In addition to the operating units, 11 fertilizer projects are under various stages of implementation. Of these Bhatinda trial production by Panipat and Sindri Modernisation projects is underway. With the commissioning of the projects under implementation, the capacity would rise to 5.12 million tonnes of nitrogen and 1.31 million tonnes of P_2O_5 by 1981-82.

The demand for fertilizers by 1982-83 is expected to be about 5.25 million tonnes of nitrogen and 1.6 million tonnes of P_2O_5. Earnest efforts are, therefore, being made to finalise additional new schemes to augment fertilizer production capacity. As a part of this programme, it is proposed to set up 4 large-sized nitrogenous fertilizer projects, 2 each in Maharashtra (at Thal) and Gujarat (at Surat), based on Bombay High/Bassein gas and 1 in Assam, based on the gas available from the oil fields in easter region of Oil and Natural Gas Commission and Oil India Limited. A letter of intent has also been granted to the Indian Explosives Limited for substantial expansion of their existing fertilizer plant at Kanpur, based on naphtha as feedstock.

Techno-economic feasibility reports for the gasbased fertilizer projects in Maharashtra and Gujarat have already been received and are being processed for investment decisions. While the two gas-based projects in Maharashtra would be implemented by Rashtriya Chemicals and Fertilizers Limited, the Gujarat projects would be implemented one each by the Indian Farmers Fertilizer Cooperative and the National Fertilizers Limited.

Preliminary studies for setting up of additional phosphatic fertilizer capacity have also been undertaken.

The production of nitrogenous fertilizers showed further improvement during the year 1978-79. During the period April-December 1978, production of nitrogen was 1.58 million tonnes as against 1.512 million tonnes during the corresponding period of 1977-78. The year 1978-79 is expected to end with a production of 2.18 million tonnes of nitrogen, which represents an increase of 180,000 tonnes of nitrogen over the production achieved last year. The capacity utilisation during the year 1978-79 is expected to be higher about 71 percent as compared to 69 percent during last year.

Production of phosphatic fertilizers, which had increased appreciably in 1977-78, continued to be on the increase during the current year too. Production during the period April to December, 1978 was 0.58 million tonnes as against 0.5 million tonnes during the corresponding period in 1977. The total production of P_2O_5 during the current year is expected to be 0.77 million tonnes as against 0.67 million tonnes during the previous

year. The capacity utilisation in respect of P_2O_5 has also improved to 84 percent as against 80 percent in April-December, 1977. The production of single superphosphate which had increased substantially during the previous year continued to be very satisfactory during the year too.

The increased production of nitrogen and P_2O_5 during the year 1978-79 is expected to result in a saving of foreign exchange to the tune of Rs. 750 million.

Measures for improving the capacity utilisation have also been taken up in a number of plants. A large scale modification programme covering the fertilizer units in the public, private and cooperative sectors is under implementation with a loan assistance of $ 105 million from the International Development Association (IDA).

Today, a wide variety of feedstocks are used for fertilizer production in the country. These include naphtha, natural gas/coke-oven gas, lignite and electricity. As a matter of policy, it had been decided that, to the extent possible, fertilizer plants to be set up in future should move away from naphtha and use fuel oil/coal. Accordingly, 6 projects were planned on the basis of fuel oil as feedstock, five of which are under implementation and one has gone into production. Two large sized coal-based fertilizer plants were also taken up for implementation.

Following the discovery of crude and gas reserves off Bombay, the feedstock policy has been reviewed and it has been decided that (i) where gas is availabke, it should be the preferred feedstock; (ii) consideration should be given to the further use of coal as fertilizer feedstock, as soon as the viability of coal-based technology is properly established; and (iii) thereafter, the use of gas and coal should be arranged on techno-economic considerations, namely, area of consumption, logistics of transporation, vaibility, availability, etc. While the use of fuel oil as fertilizers feedstock would be excluded for the present for all new fertilizer projects, the use of naphtha as fertilizer feestock for entirely new plants would be considered only in the case of long-term disposal problem in an inland location. Consideration would, however, be given to the use of naphtha as feedstock where existing plants at inland locations can be expanded at comparatively lower capital cost and complete in quick time. This feestock plocy is in line with India's policy to maximise the use of indigenously available feed stock. Consequent on the recommendations of an Expert Committee chaired by Dr. H. N. Sethna, the P and D Division of the erestwhile Fertilizer Corporation of India, has also since been set up as an independent engineering and consultancy company, namely, Fertilizer (Planning and Development) India Limited (FPDIL). It is the leading consultancy organisation in the field of fertilizers and chemicals.

Two more organisations, namely, Engineers India Limited (EIL) and FACT Engineering and Deign Cprganisation (FEDO) have also acquired capabilities for prepration of detailed feasibility studies, detailed engineering in mechanical, electrical, instrumentation and civil works, procurement including inspection and follow-up, erection and commissioning of plants. The FPDIL and FEDO hold licences for know-how developed abroad. They have also developed their own know-how in certain areas.

External assistance for Indian plants is limited to supplies and services not available in the country. However, foreign know-how is still required in critical areas such as gasification, ammonia synthesis, CC purification and the like.

Over the years, the country has also developed a wide enough and diversified industrial base geared especially to meet the specialised requirements of the fertilizer industry, e.g. high pressure vessels, pumps, heat exchangers, etc. As a result of all these efforts, the foreign exchange cost of a standard fertilizer plant has been brought down from the level of about 60 percent to 30 to 35 percent of the total cost of investment.

A special mention in this connection may also be made of the achievement of FPDIL, in the field of catalysts. A number of catalysts required for the manufacture of fertilizers are now produced by them on the basis of their own technology.

The fertilizers distributed to farmers come from two sources, viz., domestic production and imports. To ensure equitable distribution of available fertilizers including imported fertilizers, Government draws up a coordinated supply plan for the country as a whole based on the discussions at the half-yearly zonal conferences. The imported fertilizers are allotted in the main to the State Governments, with a small quantity for certain Commodity Boards. The imported fertilizers are distributed through cooperatives and other institutional agencies. The domestic fertilizer manufacturers are required to distribute their production in specified quantities to specified States, through orders issued under the Essential Commodities Act. The indigenous manufacturers sell their fertilizers in the State both through cooperatives and private dealers. Emphasis is being laid progressively on increasing the

share of cooperatives and public agencies in fertilizer marketing.

During the year, the Government also introduced an experimental scheme for subsidy on movement of fertilizers by road in order to relieve the pressure on the railways as also to provide for a more rational movement of fertilizers. The scheme was introduced on an ad-hoc basis and continued upto March 1979. Under the scheme, the manufacturers of fertilizers paid the difference between the expenditure on road and rail freight. □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
International Trade Fair, Maputo (Mozambique)	August 25—September 9, 1979
Plovdiv International Fair, Plovdiv (Bulgaria)	September 3—10, 1979
Algiers International Fair, Algiers (Algeria)	September 5—21, 1979
Zagreb International Autumn Fair, Zagreb (Yugoslavia)	September 14—23, 1979
Baghdad International Fair, Baghdad (Iraq)	October 1—15, 1979
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February 23—March 2, 1980
Leipzig Spring Fair, Leipzig (GDR)	March 9—16, 1980

For further details, please write to : The Joint Director (Exhibitions), Trade Fair Authority of India, Pragati Maidan, Lal Bahadur Shastri Marg, New Delhi-110001.

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dawp 79/584

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economic and commercial news

News Highlights

Overseas Order for Indian Firm

An Indian firm, EMC Steel Limited of Calcutta, has been awarded contract for study and design of 230 kilowatt double circuit transmission line of about 220 kilometres. This is the first electricity transmission line consultancy work in Syria awarded to an Indian company.

India to Supply Cotton to China

India would be supplying 3200 bales of cotton valued over Rs. 70 million to China under an agreement reached recently between the Chinatex, the Chinese agency, and the Cotton Corporation of India (CCI). This is the first time that China is buying cotton from an Indian agency (CCI) directly. Hitherto, the Maharashtra State Co-operative Marketing Federation had sold some quantity to Chinese buyers, mainly through the parties in Hong Kong.

Promoting Indo-Australian Cooperation

During the course of annual India-Australia official talks, which concluded recently in New Delhi, both sides noted with satisfaction that in pursuance of

(*Contd. on page* 2)

Export Performance and Potential

Steel Consultancy Breakthrough Overseas

Metallurgical and Engineering Consultants (India) Limited (MECON), a leading consultancy organisation in the public sector, earned a profit of Rs. 25.80 million during the last financial year, 1978-79. This represents an increase of about Rs. 4.3 million over the profit of Rs. 21.50 million, earned by MECON in 1977-78. The turnover of the company last year is estimated at Rs. 123.10 million, including its foreign exchange earning of Rs. 11 million. The turnover in the previous year was Rs. 96.90 million. The Company is currently involved in projects whose total value would be around Rs. 40,000 million.

The overseas consultancy assignments won by MECON last year marked a major breakthrough for Indian steel consultancy and know-how in the international field. Besides consultancy and engineering work assignment to MECON for the one-million tonne steel plant in Nigeria in 1977-78, the Nigerian Government has also recently decided to retain MECON as consultants for the prepration of the feasibility report in connection with the expansion of the Nigerian steel plant from 1 to 2.5 million tonnes. The feasibility report which MECON will submit to the Nigerian authorities shortly, envisages facilities for the production of sophisticated flat products like hot and cold rolled sheets and coils, galvanised sheets and electrolytic tin plates.

A team of MECON engineers has also begun on-the-spot studies and investigations in Syria to complete the assignment it had secured last year for the preparation of a feasibility report for a one-million tonne capacity steel plant in Syria and for the development of Syrian iron ore mines.

the decisions taken during the visit of the Australian Prime Minister to India in January 1979, a number of concrete projects for joint research and development in the fields of agriculture, animal husbandry, solar energy, coal conversion, etc, have been finalised. Both sides expressed confidence that the recent encouraging trend towards increased trade flows between the two countries would continue.

Asian Packaging Congress

India will be hosting the sixth Asian Packaging Congress from 10th to 13th of November, 1979. The Congress, to be organised by the Indian Institute of Packaging (IIP) under the aegis of the Asian Packaging Federation, would focus attention on vital issues concerning packaging for better distribution. The Congress will be held in Bombay.

Record Food Production

For the second successive year, India has achieved record levels in foodgrains production. Latest estimates available have indicated that foodgrains production touched an all-time high level of 130.5 million tonnes in the year 1978-79. This is about five million tonnes more than the figure for 1977-78.

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The Syrian contract was won by MECON last year in the face of stiff competition from Western consultancy agencies. A Consultancy and Engineering Bureau is being set up at Algiers with MECON's assistance for the Arab Iron and Steel Union.

Among its assignments within the country, the second indigenous coke oven battery, designed by MECON, was commissioned at Rourkela Steel Plant last April. The Dalli mechanised iron ore mines of Bhilai plant, engineered by MECON, was commissioned recently, with an annual capacity of 2.5 million tonnes of iron ore, along with the second MECON designed sintering plant at Bhilai, which would increase the productivity of Bhilai's blast furnaces. Work on the design and manufacture of equipment for the setting up of the new Cold Rolling Mill Complex at Bokaro is progressing according to schedule. The mills will, on completion, produce additionally about half a million tonne of very high quality cold rolled sheets and coated products like plain and corrugated galvanised sheets and coils.

The proposed alumina complex to be set up with Soviet collaboration in Andhra Pradesh has MECON as its principal consultants. The planning and engineering of the sponge iron plant in Orissa, the pelletisation plant at Bailadilla and the 180 MW captive power plant at Bokaro are also being done by MECON.

The Rs. 580 million seamless steel tube plant of the Bharat Heavy Electricals Limited (BHEL) at Tiruchirapalli is being handled entirely by MECON. The cold roll facilities of the plant have already been commissioned and the hot rolling mill is likely to be commissioned shortly. The completion of this plant will enable BHEL to save foreign exchange to the tune of Rs. 300-350 million annually.

IAAI to Build New Airport in Yemen

The International Airports Authority of India (IAAI) has been awarded a contract by the Pepole's Democratic Republic of Yemen, for building an airport project at Riyan. Global tenders were invited by the Government earlier.

The Rs. 220 million project will be IAAI's fifth airport contract abroad. The IAAI has at present two airport projects in Libya at Ghat and Brak, one each in Maldives and Tanzania. With the award of the Riyan project, the IAAI has more than Rs. 1000 million airport works abroad.

At Riyan the IAAI will construct a 3000 mts. long runway, taxi-track, apron and provide airfield lighting. In addition, the terminal building, a control tower and a cargo building are included in the project which will be completed in a period of two years.

The site of the airport is 420 miles from Aden, in a desert area with blown-sands. For meeting water requirements, two deep tubewells will be bored. While a stone quarry is nearby, all other construction material including plant and equipment, will have to be shipped.

The Riyan project will be highly mechanised and will be organised in the same manner as the IAAI projects at Libya and Maldives, where a small labour force has been inducted to work on heavy plant and machinery to complete the large airport projects expeditiously.

Indian Firms at Leipzig Fair

India will be taking part in the autumn Leipzig fair which commences on September 2. Fourteen leading firms of international repute will display their products in seven fair houses including some of their export items which India can offer for international market.

The items to be displayed by Indian firms include cotton, synthetic, hosiery, readymade garments, jute goods, coir and coir products, spices, mica, shellac, pepper, ginger, fruits and fruit juices, tea, coffee and other beverages, tobacco, handicrafts and handloom articles, chemicals, pigments, crushed bones, ossein and gelatine, medical and hospital equipment and instruments and leather and leather goods.

In addition to exhibiting the products, several export houses and import and industry organisations have planned to send their representatives to visit and explore possibilities of increasing trade.

Indian Handtools Enter New Markets

Indian hand tools have fetched orders worth Rs. 1.75 million from Australia and New Zealand. The orders were secured during the course of a Contact Promotion Programme undertaken by the Trade Development Authority with assistance from Commonwealth Scott., London in these countries, Trade enquiries worth Rs. 1.8 million were also generated.

Under the Contact Promotion Programme, a four-member team, which included a TDA officer and three industry representatives, visited major industrial and trade centres in Australia and New Zealand. They contacted a large number of wholesalers, importers, distributors, hardware specialised stores, department stores and retailers with samples and catalogues of hand tools. The industry representatives were from Snail Spanners (India) Tools Ltd., Bombay; Presto Works, Jullundur and Hindustan Everest Tools Ltd., New Delhi.

According to the team, the major buyers and importers in the two countries evinced keen interest in the Indian products. Their reaction to the Indian handtools was generally favourable, both quality-wise and price-wise.

The items which bagged the orders included pliers, spanners, wrenches, hammers, vices, hand drills, tinsnips, G. cramps and chisels. The handtool markets in Australia and New Zealand have remained virtually untapped so far. The Indian share in the total Australian and New Zealand imports of these products is just one percent. This accounts for three percent of the total handtools exports from India, The present orders are regarded as an encouraging development.

In 1976-77, the total exports of handtools from India were to the tune of Rs. 300 million, an increase of Rs. 100 million over the previous year. West Germany, the US, Britain, the Netherlands, Sweden and Canada are major buyers of Indian handtools.

Recent surveys reveal that the developed countries are slowly dispensing with the manufacture of handtools since these are labour-intensive items and do not lend themselves to automated production. With high labour costs and limited production available from the domestic units, the developed countries look towards offshore sources to meet their requirements. The demand for handtools in these markets has been growing rapidly.

Permanent Exhibition on India in UK

A new permanent exhibition on India at Commonwealth Institute in London has been recently inaugurated. The Commonwealth Institute has been functioning since 1949 as a window on cultures and economies of member nations.

It may be recalled that India had set up an exhibition for the first time in mid fifties. New Exhibition is in replacement of the old outdated pavilion.

India's exhibition is the first at Commonwealth Institute to have been both designed and fabricated in its entirety outside the UK. Indian pavilion has been built by National Institute of Design (NID), Ahmedabad and by Indian designers, consultants and students.

Theme of Indian exhibition is taken from Arnold Tolynbee's observation that India is a society of same magnitude as of all western civilisations 'a whole world in herself'. The Exhibition surveys India's continuous civilisation, the assimilation of diverse cultures while retaining its distinctive personality and its efforts to resolve problems of national development in preparation for tomorrow. The Exhibition have been carefully prepared to appeal to a varied audience. Young visitors and teachers comprise a major section of Commonwealth Institutes audience and the Indian display is intended to be used as a teaching aid by schools and colleges.

The Indian Pavilion opens with a 'pageant of peoples' presenting the contrast of Indian landscape and culture. A gigantic blow-up of the Bombay skyline stands in contrast with the walled Madhubani dwelling its surfaces and interior painstakingly

recreated and brought to life through sounds objects and photographs blended to create an authentic expressions of rural Bihar. Sweep of India's history is visualised on a 'history wall' carrying four strands from rich tapestry of India's heritage, glimpses of Indian history, India's men and women of ideas, the art and architecture of India and Indian science and technology through the ages.

Facing this presentation is the story of India's 'process of change' as the country moves from a predominantly agricultural society to one of the world's major industrialised nations.

The Exhibition shows India's industry at all levels indicating the country's enormous scientific and technological skills and resources and their application to solution of the problems facing the country.

Emphasis on village self-sufficiency and on small scale sector are highlighted here. A bird's eye view of industrial landscapes in villages and towns, is provided through a periscope system which focusses attention on diversity of Indian economy.

Linkages between craft and organised industry and thread of continuity which marks so much of India's traditions is illustrated through the story of Indian textiles. Another highlight is an audio visual presentation of craft and industrial skills featuring sophisticated technology drawing examples from every region of India. A distinctive feature of the pavilion is the copious use of audio visual material and devices to recreate an impression of a society in dynamic motion and resurgence. Here one can hear the sounds of India from the tranquil song of the village to noisy confusion of the city. Through the captioned panels and statistics, the colours and music and the machine and the individual, emerges the picture of a nation of peace-loving and democratic people who through their simplicity, endeavour and wisdom, have made a great nation.

Promoting Coffee Exports

As a result of favourable international coffee prices, the export earnings from coffee rose to Rs. 2,304.5 million in 1977-78 from Rs. 513.6 million in 1974-75. The quantity of coffee exported during 1977-78 was 55,827 tonnes as against 49,467 tonnes in 1974-75. The target for exports during 1978-79 was fixed at 70,000 tonnes valued at Rs. 1,750 million. Exports from April 1978 to January 1979 were of the order of 52,988 tonnes, valued at Rs. 1,284.3 million. This is stated in the annual report of the Department of Commerce in the Union Ministry of Commerce, Civil Supplies and Cooperation for 1978-79.

Coffee has come to occupy a significant place among plantation crops because of its great potential as a foreign exchange earner for the country. The receipts of the 1977-78 crop into the pool upto the end of January 1979 amounted to 122,882 tonnes as compared to 101,743 tonnes last year.

Through the pool system of coffee marketing, the Coffee Board regulates the manufacture and marketing of coffee and has been successful in keeping internal prices steady at low levels, despite high international prices.

The Coffee Board, in consultation with the National Council of Applied Economic Research, had drawn up a long-term perspective Plan for coffee development upto 2000 A.D. The plan gives an estimate for the demand and supply position of coffee as also export from India by the end of this century keeping in view the current trend and performance of the coffee industry. The coffee development plan envisages bringing more area under coffee cultivation in traditional and non-traditional coffee growing areas upto 2000 AD. to match the estimated demand for internal consumption and exports as projected expert by body like the National Commission on Agriculture. The plan envisaged achievement of the production target of 150,000 tonnes by the end of 1985 and 200,000 tonnes by 2000 A.D. An additional area of 130,000 hectares would be brought under coffee by 1993-94 covering both the traditional and non-traditional areas so that these should reach the yielding stage by 2000 AD.

Emphasis is now being laid on a scheme for promoting the production by small growers and extending cultivation to the non-traditional areas in North Eastern States.

The existing schemes for the development of coffee are :

(i) Project-I—development of small coffee farms in traditional areas and their expansion;

(ii) Project-II—expansion of coffee cultivation in non-traditional areas;

(iii) Loan/subsidy for replanting—to make replanting of old, uneconomic coffee plants attractive to small growers, a subsidy of Rs. 1,000 an acre is given along with another Rs. 2,000 an acre as loan;

(iv) Loans for intensive/extensive cultivation—to encourage small coffee growers to increase the area and productivity of their holdings; and

(v) Loans for working capital/hire purchases/special purpose—to provide loans to coffee growers for their working capital/purchase of planting equipment and machinery on hire purchase basis and for sinking wells, construction of drying yards etc.

Among the new schemes for coffee development are :

(i) Training projects to train personnel in coffee culture both in tradtional and non-traditional areas;

(ii) Projects for soil testing/pest surveillence etc. in traditional coffee areas to help small growers adopt scientific methods for coffee cultivation;

(iii) Projects for seed multiplication and collection/distribution of seeds, both in traditional and non-traditional areas to supply growers with healthy, high yielding seeds;

(iv) Opening of coffee demonstration farms, both in traditional and non-traditional areas; and

(v) Strengthening of research/ extension wing of the Board.

As regards the international scene, India is a member of the International Coffee Organisation (ICO). An Indian delegation attended the 32nd session of the International Coffee Council held at London from September 25-29, 1978. The Indian delegation emphasized the need to establish an understanding and rapport between the representatives of the growers and consumers to solve the problems in the best interest of all. Under the quota restrictions of the last two agreements, small producing countries had not been able to play a dynamic role. Factors like increased production and substancial domestic consumption within the exporting countries needed to be taken into account while fixing quotas so that progressive producing countries were not fettered by their past performance. ICO is thought to be a suitable agency to promote coordination and cooperation in the fields of research, development and production of quality coffee among producing countries.

Instant coffee is mainly exported to East European countries under bilateral agreements. In order to boost the exports of instant coffee, which is a value added item, Government is granting 10 percent cash compensation support.

Improved Performance of MMTC

The total turnover of the Minerals and Metals Trading Corporation of India (MMTC), a Government of India undertaking, which rose by 18 percent in 1976-77, further increased by 11.5 percent during the year 1977-78, according to the annual report of the Department of Commerce, (Union Ministry of Commerce, Civil Supplies and Cooperation) for 1978-79. The following table gives a comparative picture of trade turn-over of the Corporation :—

(Rs. in million)

	1977-78	1978-79 (upto December 1978)
Exports	2,021.3	1,320.4
Imports	7,315.4	6,793.6
International Trade	53.0	27.6
Total turnover	9,389.7	8,141.6

MMTC has done reasonably well in developing minerals as a major growth sector in India's export trade. The major items of export handled by the Corporation are iron ore, manganese ore and coal. The exports of these items have been stepped up from the level of Rs. 420 million in 1964-65 to over Rs. 2,020 million in 1977-78.

The export of iron ore by MMTC during the last three fiscal years from 1975-76 to 1977-78 has been as follows :—

Year	Quantity (million tonnes)	Value (million rupees)
1975-76	11.618	1,289.0
1976-77	11.738	1,488.5
1977-78	12.297	1,640.4

During 1978-79, in spite of the recession continuing in the world steel industry, the Corporation set a target of 13.2 million tonnes of iron ore for export by continuing to make efforts for diversification of export trade. In this regard, the Corporation has had some success in respect of Yugoslavia and Iraq during the last 2-3 years. In 1978, new markets have been found in some West Asian countries. In the East, some success has been achieved in contracting for supply of over 100,000 tonnes of iron ore to China in 1978-79. During the period of nine months from April to December, 1978, total shipments of iron by the Corporation have been of the order of 9.68 million tonnes compared to 9.44 million tonnes during the corresponding period of 1977-78. This trend is likely to continue as it was expected that 13.2 million tonnes of iron ore were to be shipped during 1978-79.

Exports of manganese ore during the first nine months of fiscal year 1978-79

as of the order of 362,000 tonnes valued over Rs. 84.5 million, which represent an improvement of 22 percent over 261,000 tonnes exported during the corresponding period last year. The Corporation programmed for total exports of quantity of 700,000 tonnes, valued at Rs. 161.2 million during the year 1978-79 compared to the export of 549,000 tonnes valued at Rs. 130.4 million during the previous year.

The Corporation increased the promotional activities in the matter of export of coal which had remained at around 400,000 tonnes a year until 1975-76. As a result, substantial export orders were secured and in 1976-77, exports of coal were of the order to 640,000 tonnes. In 1977-78, coal exports fell marginally by 30,000 tonnes.

Apart from export to neighbouring countries, new markets were developed in Europe.

The export of chrome ore and concentrates were canalised through MMTC with effect from August 21, 1978. An export quota of 307,000 tonnes for 1978-79 was placed at the disposal of MMTC for shipment up to March 31, 1978. Against this, the Corporation has been able to conclude contracts for a quantity of 165,000 tonnes for exports to different destinations by March 31, 1979. Efforts were being made to conclude contracts for the sale of balance quantity of about 142,000 tonnes during the fiscal year. Upto end December, 1978, a quantity of 29,000 tonnes, valued at Rs. 19.9 million has actually been exported.

The Corporation is making efforts to help exports of products manufactured out of raw materials imported by it. This would cover items in which the inputs are laregely copper, zinc, stainless steel, etc. In this direction, a beginning has been made recently and two consignments of stainless steel wares worth Rs. 246,000 have been exported. The Corporation is pushing its efforts to expand exports of such products, with emphasis on products of small scale sector.

MMTC has been an important source of providing non-ferrous metals to industries. By importing metals in required specifications and in large consignments from a highly fluctuating international market, the Corporation has been able to ensure steadly supplies at competitive prices. The quantity sold during the period April 1, 1978 to March 9, 1979 was worth Rs. 30.9 million.

According to the Import Policy for 1978-79, import of stainless steel sheets/plates/strips—excluding cold-rolled strips of width 22.38 to 22.40 mm and thickness 0.10 to 0.13 mm—is canalised through MMTC. In the current import policy, there has been further liberalisation even for the thicker guages of stainless steel sheets/plates/strips where the actual users are allowed to register their requirements under Direct Allotment Procedure with MMTC without the necessity of obtaining clearance from the Iron and Steel Controller.

MMTC has made adequate arrangements for procurement and supply of materials of thinner guage sheets, as a result of which the prices of the finished products (utensils) prevailing in the market have come down considerably. During the period April-December, 1978, the sales of stainless steel were 14,650 tonnes valued at Rs. 650 million representing an increase of 90 percent over the sales made during the corresponding period of previous year. The total sales during the year 1978-79 are estimated at Rs. 766.6 million.

Industrial Growth and Diversification

Upswing in Aluminium Output

Output of aluminium is estimated to have gone up by 19 percent in the first three months of the current financial year. Production increased to 56,227 tonnes in April-June this year from 47,112 tonnes during the corresponding period of last year.

Output has been higher by about 9,115 tonnes than in the previous year, despite the constrains on fuller utilisation of capacity due to power cuts on aluminium smelters at Renukoot (U.P.), Belgaum (Karnataka) and the Bharat Aluminium Company (BALCO) Limited's unit at Korba in Madhya Pradesh.

Steps are being taken, in consultation with the State Electricity Boards, to augment power supplies to smelters. Meanwhile, 5,850 tonnes of imported metal has already been received from April upto the end of June and 29,000 tonnes are in the pipeline, which would help in making adequate supplies available to fully meet the growing domestic demand for aluminium.

Cumulative production last year was about 2,15,000 tonnes, which represented an increase of over 20 percent over the output of 1,78,538 tonnes in 1977-78.

Stepping Up Steel Output

The Union Steel Ministry has set a very tight time-schedule for the implementation of the new shore-based steel project at Visakhapatnam in Andhra Pradesh. Details of the work-schedule and construction are being drawn up in a manner intended to ensure completion of the plant's first 1.2

million tonnes stage in four years and the second stage of 3.3. million tonnes in another two years. Disclosing this at the Engineering Export Promotion Council (EEPC) Workshop on "Raw Material Inputs for Engineering Exports" recently Mr. Mantosh Sondhi, Secretary, Ministry of Steel and Mines, said that the Vizag steel plant would particularly help in raising the production of certain categories of steel like billets, and the merchant mill sections, including light structurals which the engineering export units badly need.

As part of the long-term perspective in steel, the setting up of other coastal steel plants with technical and financial assistance from some of the developed countries, was also being seriously considered, he said. He explained that the intention was to work out the financial package in a manner which would ensure additional resources over and above what had been provided in the plan.

In addition, the approved programmes for the expansion of the Bhilai and Bokaro plants were being vigorously pursued, as also the schemes to modernise production facilities at all the steel plants, through the induction of new technology to increase productivity. With these measures, production of finished steel from the integrated steel plants, old and new, would go up to 10 to 11 million tonnes in 1982-83 and to 16 million tonnes by 1989-90, providing a comfortable cushion of supplies for the engineering export sector.

Referring to stainless steel, which at present was being imported in large quantities and which was an essential input for engineering exports, the Secretary observed that construction of the Salem plant was progressing according to schedule. Concurrently, with this, the modernisation as well as the further expansion of the Durgapur Alloy Steel Plant (ASP) was being given serious consideration. Certain policy decisions had also been taken to enable diversification of the existing mini steel plants into stainless steel production. With these steps, it should be possible to achieve self-sufficiency in the production of stainless steel before long, he added.

Setting Up Mini Cement Plants

As part of Government's policy to decentralise and disperse industry into rural and backward areas, great importance has been attached to the speedy implementation of mini cement projects enabling the utilization of small limestone deposits, to meet the needs of local markets and reduce the strain on transport system. The first step in the establishment is the selection of potential sites and the exercise on the economic viability of the plant.. The Cement Research Institute of India (CRI) has brought out two publications, the first one entitled "Potential Sites for Establishing Mini Cement Plants in India" to assist the prospective entrepreneurs in their detailed selection and investigation and the second relating to the "Techno-economic Viability of Mini Cement Plants". These have already found wide circulation in the country.

Even though the publications already bring out detailed techno-economic parameters for the benefit of the entrepreneurs before taking any investment decision, there are several other procedural matters pertaining to the setting up of mini cement plants of which the entrepreneurs need to be informed. With this objective in view, CRI has issued an entrepreneur's guide embracing the various aspects which have been detailed below for the setting up of mini cement plant right from the raw material investigation, site selection, econmics, available technologies with appropriate capacities, the investments, incentives already available, procedures to be followed to the financial arrangements available, etc.

Mini cement plants enjoy a number of advantages such as (i) cement industry is brought within the financial access of smaller entrepreneurs; (ii) a sense of ownership is invested in men with relatively smaller means; (iii) increased employment opportunities are created in rural areas on a well dispersed basis; (iv) contribution to uplifting the local economy and development; (v) realization of quicker returns on capital invested because of low gestation period; (iv) exploitation of smaller deposits of limestone scattered all over the country; (vii) economic utilization of waste products and byproducts in certain cases; (viii) development of cement industry in terrains where movement of machinery and cement are difficult; (ix) reduction of strain on country's transportation infrastructure; (x) avoidance of wasteful movement of materials and thus bringing down the average unit cost of transportation of cement in the country; (xi) elimination of packing costs where the utilization point is localized; (xii) reduction in multi-handling and intermediaries between the manufacturing point and the consuming point; and (xiii) lower capital investment per unit capacity.

For identifying potential sites, the main criteria are the quantity of mineable cement grade limestone, preferably with no overburden, to be available within a few kilometres from the site and adequate reserves to sustain a plant with 20 years life. The sites thus identified so far in the country, along with other resources and infrastructural

facilities, such as fuel, power and gypsum around the locations of deposits are listed in CRI's publication "Potential Sites for Establishing Mini Cement Plants in India".

As regards raw materials, the cement making process involves the use of cement-grade limestone, gypsum, clay, other corrective materials (depending on the specific situation) and a fuel (low volatile or otherwise depending on the process). The typical composition of limestone may be represented as follows: CaO (44-52 percent); MgO (3.5 percent); SiO_2 (8 percent); Al_2O_3 (1-3 percent); and Fe_2O_3 (1-3 percent). The fuels used in the cement manufacture are coals, fuel oil, gas, coke breeze etc. Leco fines, char-fines, etc. can also be used as partial substitutes.

About the process of cement manufacture on a small scale, it may be mentioned that production of portland cement on a small scale has been attempted in several parts of the world. A number of alternate technologies are available incorporating the burning process through vertical shaft kiln, small rotary kiln, sinter bed—straight (like Lurgi), inverted grate (like Reba), fluid bed kiln and belt kiln or mechanical grill. The commercial exploitation of the last four processes being rather limited, the use of vertical shaft kiln process and the small size rotary kiln are the only processes well established for cement manufacture. The ordinary portland cement manufactured in India has to conform to the specification IS : 269-1976.

A vertical shaft kiln semi-dry process involves crushing of limestone and additivies (if necessary), proportioning of raw materials and fuel (low volatile) based on raw mix design and blending to obtain homogenized raw meal, preparation of nodules and feeding nodules to the shaft kiln wherein drying, preheating calcining sintering take place leading to conversion of nodules into clinker, and finally grinding of clinker with gypsum to produce ordinary portalan cement.

The rotary kiln process (dry/semi-dry/wet) involves crushing of limestone and additives (ir necessary), proportioning of raw materials, blending to get homogenized raw meal , ccal crushing for firing, passing the homogenized raw meal through preheater or other hear exchangers (as required in the heating proces), feeding to the kiln, clinker cooling and finally grinding with gypsum to get ordinary portland cement.

Blended cements, such as portland blast furnace slag cement and portland pozzolana cement, conforming to IS : 455-1976 and IS : 1489-1976 respectively could also be obtained by grinding clinker with suitable industrial wastes.

Technologies available for exploitation in the Indian conditions are vertical shaft kiln (VSK) and small size rotary kiln. Details of the costing, cash flows, etc are available in CRI's publication entitled "Techno-economic Viability of Mini Cement Plants".

Government of India, vide its Press Notification No. 9-28/78-Cem dated 4 January, 1979 has offered a number of incentives for mini cement plants, with capacities limited to 200 tonnes per day or 66 000 tonnes per annum, which are as under :

(i) The ex-works price of cement produced by the mini cement plants would be the same as the price admissible to new large sized plants viz., Rs. 296 per tonne. This price will be assured for a period of five years from the date of going into commercial production ;

(ii) Mini cement plants will be allowed a rebate in the payment of excise duty up to 50 percent for a period of five years ;

(iii) While mini cement plants will be subject to price control under the Cement Control Order and shall not sell cement at a price higher than the controlled price, they will be exempt from distribution conttol under the Cement Control Order, 1967. The mini cement plants will bear their own distribution costs and will not be required to adjust the freight element with the Cement Regulation Account. The other elements in the f.o.r. destination price of cement will, however, be subject to adjustment with the Cement Regulation Account as per the existing provisions;

(iv) Mini cement plants will also be eligible for all other existing incentives and facilities available under the Income Tax Act and or under other schemes offered by the State Governments ;

(v) Mini cement plants set up in hilly and remote areas will be eligible for additional excise duty relief and/or cash subsidy on merit;

(vi) Large houses and foreign majority companies will not be allowed to set up mini cement plants.

Entrepreneurs seeking letter of intent/industrial licence for manufacture of cement by small cement plants are required to furnish the following details along with their application forms. to the Ministry of Industrial Development. They should adopt similar procedure for registration with the

Directorate General of Technical Development (DGTD) would ensure quicker disposal of their applications : (a) Exact location pin-pointing village, tehsil and district, clearly mentioning that the proposed site is beyond the municipal limits of township having a population of 500,0 0 or more; (b) location and area of occurrence of limestone deposits and the extent of proven deposits available for the project. (c) Chemical analysis report on the limestone; (d) type of fuel to be used, its source of supply, its approximate distance from the cement factory and the proposed mode of transport along with availability in case coke breeze is to be used as a fuel; (e) in case of rail transport of fuel, the number of wagons required per month for movement from the source to the proposed project; (f) brief description of the pri cess and technology to be adopted.

The entrepreneurs will have to complete the registration either under the Companies Act 1956 if a private/ public limited c mpany or under the Socioty ACF 1860 if a soc.ety It is noteworthy that CRI assists the interested entrepreneurs right from the preparation of feasibility report, detailed project report, to the commissioning of mini cement plants.

Sponge Iron Exempted from Customs Duty

Sponge iron, being imported as an alternative to melting scrap for production of steel by the mini-steel plants, has been exempted from the whole of basic, auxiliary and additional duties upto March 31, 1980. The exemption has been granted due to the high prices abroad and with a view to makeing the imported sponge iron available to the mini steel plants for use in electric arc furnance at re.sonable prices.

Higher Bank Lending to Priority Sectors

Lending by public sector banks to priority sectors increased fro n Rs. 4410 million in June 1969 to Rs. 4768 million in December 1978. This represents an increase from 14.6 percent to 31.9 percent of the aggregate advances of the banks, over the period.

Priority sectors which have been accorded special attention by the banks for this purpose are agriculture, small-scale industry, small road and water transport operators, retail trade and self-employment ventures. Assistance to indigent students for higher education has also been included in the priority sector.

The disbursement of advances has been more marked in terms of the total number of borrowal accounts financed, which increased from less than 0.3 million in June 1969 to 8.9 million in December 1978.

To ensure a larger flow of institutional credit to the priority sectors, the public sector banks have initiated several measures. Beside creating special cells at the head office level and recruiting trained staff for undertaking agricultural lending and for technical evaluation of small industry or other self-employment project proposals, district credit planning is being undertaken under the lead bank scheme to ensure coordinated effort for meeting credit requirements of priority sectors in each district.

Attention has also been devoted to the creation of an institutional infrastructure to help commercial banks to increase their lendings to the priority sectors. The Credit Guarantee Organisation provides guarantee to the commercial banks for advances made to small-scale industries and road transport operators. The Deposit Insurance and Credit Guarantee Corporation collects a certain premium from the banks on their outstanding eligible advances to the priority sectors and in return guarantees about 75 percent of the small loans, within specified ceilings, in case they become irrecoverable and have to be written off.

The Agricultural Finance Cor- Corporation Limited provides consultancy facilities and technical expertise for formulating specific area schemes in the sphere of agricultural credit. To augment the available resources of the banks for priority sector lendings, the Agricultural Refinance and Development Corporation and the Industrial Development Bank of India refinance the commercial banks in respect of their loans to the priority sectors.

The Reserve Bank, throguh its "Small Farmers' Window" seeks to provide refinance, to the extent of 50 percent of agricultural loans upto Rs. 2500 to small farmers, sanctioned after January 1, 1978. Also, concessional rates of interest have been stipulated for term finance to farmers for land development, minor irrigation and for various purposes to small scale and tiny sector units and transport operators.

Improved Storage Facilities for Fertilisers

Under an agreement signed recently in New Delhi, the FAO is to assist India in establishing an efficient and economic handling and storage system for fertilisers in India.

The agreement for a Technical Co-operation Programme (TCP) Project, "Fertilisers Storage Improvement and Training", was signed by Dr. A. S. Alwan, FAO Representative in India on behalf of FAO and Mr. A. J. S. Sodhi, Joint Secretary, Ministry of Agriculture, on behalf of the Government of India.

A training programme for Storage and Transport Managers is also to be formulated and the upgrading of knowledge of persons handling the storage and transportation work is to be undertaken, under this Project.

Fertiliser consumption in India has been rapidly rising for some years. It was around 2.5 million tonnes in 1974-75 and crossed the 5 million tonnes mark, in terms of nutrients in 1978-79. In terms of fertiliser material, the quantity is estimated to be of the order of approximately 12 million tonnes.

The bulk of fertilisers is produced in about 30 major plants in India, many of which are located at or near port towns. The balance of fertilisers needed are met through imports, which again arrive at major and minor ports of the country. The consumption of fertilisers takes place in widely-dispersed locations and its timing is also season specific.

The movement of fertilisers in the interior and its proper and adequate storage is becoming increasingly a critical issue in the fertiliser handling system of the country.

The major objective of the Governmet is to reach the right type of fertiliser at the right time and in the right quantity, as close to the doorsteps of the farmer, as possible. Hence, meticulous planning of a suitable net-work of storage warehouses of various sizes is an absolute necessity. This problem is already receiving close attention of the Government of India.

The TCP Project will enable experts from FAO to assist local experts to examine closely the fertiliser unloading methods and equipment used at the ports as also to help in establishing an efficient transport and storage system in selected areas. Under the Project, experts will assist in designing specifications for storage structures for bagged and bulk fertilisers and in finalising specifications for equipment for mechanised handling, among others, of the bagged and bulk fertilisers.

Streamlining Revenue Laboratories

Streamlining of the work of the scientific laboratories of the customs and excise departments of the Government of India was recommended by an Expert Committee, which submitted its report to Mr. G. Ramachandran, Finance Secretary, recently.

The Expert Committee under the Chairmanship of Mr. A. N. Sattanathan, a retired Indian Customs Service Officer, was appointed by the Government of India in May 1978. The Committee was asked to examine the adequacy or otherwise of modern testing facilities and improvements in the apparatus, equipment, fittings and literature needed in the context of technological innovations and the wide range of products that the departmental laboratories are called upon to test. The Committee was also asked to recommend measures aimed at reducing delays in testing or advising the department on specific issues referred to the laboratories and various other questions regarding staff requirements, etc.

The following are some of the important recommendations of the Committee :

(1) The department should follow uniform policy in the matter of testing of imported crude oil for all the refineries;

(2) The transit loss during movement of petroleum products should be studied for a couple of year and correct quantum prescribed; till then the eixting practice should continue;

(3) The departmental laboratories attached to the refineries should not depend on the refineries for the apparatus but instead have their own equipment; and

(4) Additional departmental refinery laboratories should be established for the following refineries : Haldia Refinery, Indian Oil Corporation refineries at Noonmati and Bongaigaon and Mathura Refinery.

The Committee has recommended setting up of central excise laboratories at Kanpur, Paradeep Port, Gauhati and sub-laboratories at Bangalore, Ahmedabad, Indore, Amritsar, Poona and Bombay airport.

The Committee has recommended that the working in the laboratories should be organised on the divisional basis and each division should specialise in a major commodity.

National Savings Collection Up

During 1978-79, the total deposist under various small savings schemes amounted to Rs. 25695.1 million.

The total repayments during the same period amounted to Rs. 17101.1 million, leaving an all-time high balance of Rs. 8594 million for the year. The total outstandings upto March 31, 1979 in national savings were nearly Rs. 58,000 million.

A notable feature of these deposits has been that 82 percent of the net deposits constituted deposits under long-term securities such as time deposits, national savings certificates, cumulative time deposit and recurring deposit accounts.

In addition to deposits under various

schemes, nearly 7 million salarised employees were member of pay-roll savings groups through which they have committed to regularly depositing stipulated amounts every month for a period of five to ten years. Approximately 8.2 million school-going children are account holders of 'sanchayika', the school savings bank.

In addition to the NSD officers and staff, a band of nearly 40,000 authorised agents and 19,000 mahila pradhan agents have provided base to popularise the savings movement among various sections of society.

Chart Book on Economic Indicators

A board spectrum of financial and socio-economic indicators, together with the supporting time-series data used for the purpose, is presented in pictorial form (through multi-coloured graphs, charts of different types, etc.) in a publication brought out by the Reserve Bank. The graphs and charts depict the long-term trends, the seasonality, the changing patterns of inter-related economic factors and the like.

Broadly, the data are presented on the same lines as in the Reserve Bank's publications such as Banking and Monetary Statistics of India and the Statistical Statements volume of the Report on Currency and Finance. In several cases, the period covered is from 1950-51 onwards. For a few selected items, the monthly data for recent years have also been given alongside the annual data. Graphs showing seasonal factors have been presented for important series like money stock measures, and index numbers of wholesale prices. For enabling a direct reading of growth rates, semi-logarithmic charts on a few selected items have also been included in the volume. Pic charts, presenting a snapshot view at different points of time, bring into focus the structural changes that have taken place over the years.

The publication (of over 400 pages) is elegantly brought out on art paper in multi-coloured printing. It is priced at Rs. 65 per copy (postage extra). Copies of the publication can be had from the Director (Administration), Economic Department, Reserve Bank of India, Post Box No. 1036, Bombay-400 001.

Science and Technology

New Tooling Technology Developed

According to the public sector enterprises Bharat Heavy Electricals Limited (BHEL), its Tool and Guage Division has successfully developed and established the technique of hard metal deposition for the manufacture of cutting tools, gauges and dies. This process has largely eliminated the conventional heat treatment processes like carburizing, case hardening and high speed steel hardening which were hitherto being used. This has resulted in drastic reduction of manufacturing cycle time of tools and in turn power equipments, lower manufacturing cost and indigenisation of raw materials to a great extent. The results obtained by the various product divisions which have used the tools with material deposition have been satisfactory qualitatively and give ample scope for application in other areas too.

The application of hard metal deposition arose out of a necessity to reduce the manufacturing time of tools and gauges. The increasing demand of short delivery of power equipments further squeezes the available time for manufacture of tools. Tool and Gauge Division was finding it extremely difficult to deliver tools more quickly as there was little that could be done to speed up the production with the existing process. A need had, therefore, arisen to breakthorugh the conventional process of manufacture without incurring any capital expenditure like purchase of new sophisticated machinery, deployment of more manpower etc. With this objective in view, the hard metal deposition process was tried for manufacture of form cutting tools and boring bars for 30MW steam turbine. These tools made in 3 days time, with hard metal deposition were used to machine nickel molybdenum steel-turbine rotor, and it was found that these tools cut as efficiently as a normally hardened high speed steel tool.

A slot die for industrial machine rotor punching whose die and punch have been made with HSS deposition in just 4 days, has produced punchings in the same manner as a normally hardened slot die made out of high carbon high chromium steel. Significantly, the HSS deposited slot die has produced 5 times more punchings per resharpening than the high carbon high chromium slot die, hitherto being used.

There are two processes of metal deposition. Metal deposition by arc welding under which the arc welding process essentially consists of fusion of HSS with the parent material, that should preferably be medium carbon or shank steel. This imparts the requisite property which a cutting tool should possess. Subsequent hardening is not necessary, although the deposited material is amenable to the usual cycle of heat treatment for HSS. Preheating of the job and electrode, speed of welding, interpass cooling, thorough cleaning of slag after every welding run is very important to obtain high quality [illegible]

which will give the best properties of a cutting tool. This process can be used for single and multipoint cutting tools, slot dies, medium dies and punches and all types of gauges. The other process is the spray welding process which also consists of fusion of Ni-base alloys with mild steel or medium carbon steel. The deposited material imparts the property of wear resistance and surface hardness which is an essential requirement of guages and guaging elements, bushes, boring bars, arbors etc. There is no necessity of hardening the deposited area.

The salient features of the new process are :

(i) The rectification and rejection of tools during heat treatment, due to distortion and subsequently during grinding has been completely eliminated. Quite often, tools hardened by the conventional process have to be scrapped in case an important dimension has crossed the tolerance limits. However, in the hard metal deposition process, such cases can be rectified by further deposition and grinding.

(ii) The need for costly imported high speed steel, high carbon and high chromium steel and gauge steel has been eliminated as hard metal is deposited on mild steel and medium carbon steel which are indigenously available. Thus, import substitution of raw material has been achieved

(iii) The spray welding process is very useful for guages, where design limitations call for small thickness of the order of 3-5 mm. In the conventional process bending and distortion results during case hardening has been totally eliminated by the hard metal deposition process.

(iv) Rejection of boring bars and arbors due to distortion during heat treatment is very high. Invariably, in the grinding stage, the cutter slot is found accentric to the bar diameter by as much as 0.2 to 0.5 mm. The rejection of boring bars increases the manufacturing cost as well as the manufacturing cycle time. By hard metal deposition process, rejection is nil, because distortion during spray welding is only 0.01 to 0.05 mm. (which is eliminated during grinding), thus resulting in considerable saving in manufacturing cycle time and cost.

(v) In the metal deposition process a tool has to move through lesser number of work centres than in the conventional process, thereby reducing manufacturing cycle time.

Revision of Indian Standard Specifications

Indian Standard Institution has published the third revision of Indian Standard Specification for Tungsten Filament General Service Electric Lamps (IS:418-1978), which applies to ordinary incandescent lamps for general lighting purposes having : (a) a nominal life of 1000 hours; (b) a rated wattage of 15 to 1500 watts, inclusive; (c) a rated voltage of 110, 230, 240 and 250 volts; (d) bulbs clear or internally frosted; and (e) caps, normal bayonet or Edison screw. This standard, orginally published in 1953, was subsequently revised in 1957 and 1963. The third revision has been undertaken to align it with IEC Pub 64 (1973) Tungsten filament lamps for general service, issued by the International Electrotechnical Commission.

230 volts has now been recognized internationally to be the standard system voltage. In view of the large scale low tension network in India at present being at 240 volts and the difficulties of changing over to 230 volts in the near future, 240 volts continue to be the permissible voltage till complete changeover to 230 volts takes place. In the standard, 250 volts has also been retained in order to cater the overvoltage that may occur near the substation or during the lean load hours in a 240 volts system. It is the ultimate intention to standardized the performance values of lamps for single voltage only, namely, the standard system voltage of 230 volts.

This standard states the technical requirements for the lamps in question, and the methods of test to be used in determining the quality and interchangeability of the lamps on a scientific basis and their safety in use, in an endeavour of maintain the interests of the purchaser and the manufacturer.

Indian Standards Institution has also published the second revision of Indian Standard Specification for Test Sieves, Part I Wire Cloth Test Sieves IS:460 (Part I)-1978, which covers test sieves wherein a screening medium of woven-wire cloth is mounted in a frame for use in testing in the classification of materials according to particle size.

This standard was first issued in 1953 and revised in 1962. This standard has now been revised again in view of the experience gained during the course of years and to bring it in conformity with ISO 565-1972 Test sieves—Woven metal wire cloth and perforated plate—Nominal sizes of apertures; ISO 3310/I-1975 Test sieves —Technical requirements and testing —Part I:Metal wire cloth and ISO 3310/II-1975 sieves—Technical requirements and testing—Part II: Metal perforated plates issued by the International Organisation for Standardisation.

In this revision, a number of changes

have been incorporated; the most prominent being the adoption of the series of aperture widths in toto as recommended by the ISO Committee. In the earlier version, aperture widths of fine test sieves and coarse test sieves followed different series of preferred numbers; the aperture of fine test sieves followed an R 40/3 series of preferred numbers while the coarse test sieves followed the R 10 preferred numbers. In this version, the aperture widths of all test sieves follow an R 40/3 series of preferred numbers and range from 125 mm down to 22 um. The practice of classifying test sieves into *fine* test sieves and *coarse* test sieves has been discontinued. Further in the earlier version, the sieves of aperture widths less than 1 mm were designated by the micron, but, according to international practice, it has been decided to designate them by um in this revision. The material for wire cloth for test sieves has been specified according to the manufacturing practice of this country. The tolerances on the aperture widths have been brought in line with those given in the ISO standard.

Indian Standards Institution has also published the first revision of Indian Standard Specification for Varnish, Gold Size (IS:198-1978); which prescribes requirements and methods of sampling and test for the material commercially known as gold size varnish.

This standard was first published in 1952 and was largely based on the interim co-ordinated draft produced with the assistance of the representatives of manufacturers and various departments and authorities of the Government of India, by the Co-ordinating Sub-committee of the No. 5 Standing Committee on Specifications for Paints and Allied Stores of the General Headquarters, India (now Army Headquarters).

Gold size varnish is used for general purposes and temporary protection of iron and other metal surfaces during storage, as an adhesive for gold leaf and as a component of filling compositions. In this revision which has been prepared based on the recommendations of an *Ad hoc* Panel specially set up for review of published Indian Standards on paints and allied products, the requirement for acid value has been modified to *Min* 15.0 from *Min* 25.0. In view of the latest technological developments, the requirement for freedom from rosin has been dropped as it is possible to manufacture the material with the use of rosin based materials without affecting the consumer. An additional requirement for resistance to water has been included.

All these standards provides for Certification Marking of the product manufactured according to the specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

Promoting Village and Cottage Industries

The new industrial policy gives a special place to khadi, village and cottage industries for the removal of unemployment and under employment in rural areas. Programmes of development of khadi and village industries are implemented through the khadi and Village Industries Commission (KVIC), an autonomous statutory body. Programmes in regar to handicrafts are implemented through the All India Handicrafts Board (AIHB) and Development Commissioner for Handicrafts; and coir, through a statuory organisation, the Coir Board. This is stated in the annual report of the Union Ministry of Industry for 1978-79.

KVIC is responsible for development of 24 village industries including khadi. Programmes are implemented through (i) State Khadi and Village Industries Boards set up under the respective State Acts, (ii) institutions registered under the Societies Registration Act 1860, (iii) cooperatives registered under State Cooperative Acts and (iv) individual artisans. By the end of 1977-78 there were 20 statutory boards, 700 registered institutions and over 27,000 cooperatives.

Top priority was given to generation of large employment opportunities Government set up a Working Group to formulate a development strategy for khadi and village industries in the context of the Sixth Plan. A comprehensive interest subsidy scheme to enable KVIC to raise loans from commercial banks was sanctioned by Government. The activities of the Commission during 1977-78 laid emphasis on assistance to individuals and backward areas, the application of improved technology with a view to maximising employment opportunities and raising the level of earnings of rural artisans. The implementation of development programmes during the year showed increased levels of output, sales, employment and earnings.

The performance of KVIC in terms of outlays production and employment over the year can be judged from the following figures :—

(Rs. million)

Year	Outlay	Production	Employment
1973-74	159.7	1,551.2	1.812
1977-78	446.5	2,508.2	2.314
1978-79 (target)	660	3,141.5	2.850
1979-80 (target)	1,100	4,060.00	3.364

While production increased by 62 percent, the employment increased by 28 percent in 1977-78. Major production was in khadi which showed an increase of 96 percent.

Financial outlays have also shown substantial increases over the years which may be seen from the following statement :—

(Rs. million)

	1976-77	1977-78	1978-79	1979-80 (Proposed)
Khadi	156	253	380	650
Village industries	61.8	98.8	170	350
Interest subsidy	72.6	94.7	100	100
Total	290.4	446.5	650	1,100

KVIC obtained a cash credit limit of Rs. 100.5 million from three nationalised banks, viz., State Bank of India, Allahabad Bank and Punjab National Bank, for purchase of cotton and wool. The Commission is negotiating for raising the cash credit limit of Rs. 150 million. Further the implementing agencies under the KVIC obtained additional working capital requirements to the tune of Rs. 65 million by March 31, 1978.

A special rebate of 20 percent for a period of 90 working days was given during the year 1977-78. This was done with a view to help clear the accumulated stocks. During the period of 90 days sales, aggregated to Rs. 3,889 million.

Research and Development (R & D) efforts were made towards evolution of appropriate technology to increased production and earnings. KVIC has 22 research and development schemes in hand which are being specially financed by the National Committee on Science and Technology. An amount of Rs. 4 million was spent on R and D activities during the year 1977-78. Some important R and D achievements have been in palm gur, palm products, eri and tasar silk, tasar waste, muslin khadi, utilisation of non-edible oils and charkha technology.

There are six Central Training Institutes and two Regional Training Centres to impart necessary skills and aptitudes to middle level supervisory staff engaged in production and sale of khadi and village industries products. There are also Khadi Gramodyog Vidyalayas in most States which are being run by voluntary institutions. In-plant training is organised in production centres for new spinners and weavers. Technical Directorates of the KVIC have regional training centres for imparting necessary skills and orientation to middle level and lower categories of technical personnel. At some places the training and research are combined into training-cum research centres. Management oriented training has been organised from time to time in collaboration with institutions, like SIET Institute, Hyderabad; Indian Institute of Management, Ahmedabad etc. Co-operative training is also arranged through Co-operative Training, Colleges managed by the National Co-operative Union of India. During the year 1977-78, 1,690 persons were trained in various courses conducted by the KVIC and its agencies.

The Commission has a netwwork of about 3,500 khadi gramodyog bhandars, 12 emporia and about 10,000 sale outlets throughout the country. The Commission has also decided to use these outlets for distribution of essential commodities and other Consumer goods. Steps are being taken to streamline and strengthen the marketing set-up.

With a view to maximising employment, KVIC formulated new programmes for rapid expansion of (i) cottage match industry, (ii) non-edible oils and soap industry and (iii) village leather industry. It is aimed to increase production in village soap industry by 150 percent, employment by 100 percent and earnings by 100 percent by the end of 1982-83. Similarly, in the cottage match industry it is aimed to more than double production, employment and earnings by 1982-83.

The All India Handicrafts Board was set up in 1952 to advise the Central Government on the problems of handicrafts and suggest measures for improvement and development, including technical, marketing, financial and organisational aspects of handicrafts. The Board functions through 5 Regional Offices, 4 Regional Design and Technical Development Centres and a Crafts Museum. Besides, there are a chain of marketing and service extension centres, training and development centres in carpet weaving, cane, bamboo and metal crafts etc. The Board has been organised into eight Craft Divisions covering major crafts and Service Divisions for planning research, design, training etc.

Thirty two trainees completed their training in various crafts while 111 were undergoing training at different centres. Training facilities was also provided under the Colombo Plan for foreigners.

Export data for the year 1976-77 of different handicrafts product-wise was compiled on monthly basis. Excluding gems and jewellery, the estimated exports of handicrafts for the period April-September, 1978 amounted to Rs. 849.9 million as against Rs. 892.5

million during the corresponding period of last year. For promoting exports, schemes for Generalised System of Preferences and cash support schemes were continued during last year also.

Thirty three marketing and service extension centres of the Board identified and enrolled 3,500 units, employing more than 15,000 artisans, with annual production of about Rs. 80 million. The centres arranged credit facilities to the tune of Rs. 0.64 million to about 250 craftsman. Four product promotion programmes, 6 market meets and 2 market analysis programmes were organised by these Centres. A Handicrafts Bazar was organised at Ashoka Hotel. A proposal for equity participation by the Board in the various State Handicrafts Development Corporations and Co-oprative Socieiteis is under consideration. During the year, the Board also participated in the Indian National Exhibition, Moscow, Buyer-Seller Meet in Cophehagan and Indo-German Fortnight in West Germany.

As an annual feature, National Awards were given to 10 Master-craftsmen by India's President on February 27, 1978. Financial assistance was arranged for 4 batches of craftsmen selected during earlier years.

Under the massive training programme, 45,000 carpet weavers are to be trained during 1976-79. About 607 training centres were run partly by the Board and partly through State Handicrafts Corporations. Additional 127 such centres were sanctioned during 1978-79.

National Craft Institute at Jaipur and Common Facility Service Centres at Farrukhabad and Ahmedabad, were sanctioned during the current year. Similarly, 12 advanced training centres in fine cane and bamboo craft were set up in Tripura, Assam, Manipur, Nagaland, Meghlaya, Kerala, Tamil Nadu, Gujarat and Karnataka.

Special scheme for training 1,000 craftsmen in metal craft through 20 training centres in UP was sanctioned in June, 1978. Seven centres have already been set up. To train 180 persons, apprenticeship training schemes in art-metal craft were being run in the states of Tamil Nadu, Andhra Pradesh, Kerala and UP. In stone craft, 3 apprenticeship training shemes under master-craftsmen were in progress in UP, Andhra Pradesh and Tamil Nadu. Apprenticeship training schemes for training in temple jewellery in Tamil Nadu, costume jewellery in Rajsthan and lac bangles in UP were under implementation.

The Working Group on Handicrafts has formulated a draft of new Five Year Plan in respect of handicrafts. The report is under the consideration of Government.

The coir industry in India is essentially in the cottage sector dispersed mainly over the west coast in Kerala where natural retting facilities of coconut husks exit. It is developing in other States like Andhra Pradesh, Karnataka, Orissa, Tamil Nadu, etc.

The Coir Board, a statutory body established by the Central Government continued its activities of promotion and development of the coir industry during the year under review. It undertook the export of coir and coir goods, research for product betterment, modernisation of manufacturing tecniques, fixing grade and standards and arranging inspection of coir goods and generally improving their marketing both within and outside the country.

Coir exports during the year 1977-78 were of the order of Rs. 238.6 million as against Rs. 227.7 million in 1976-77. There was, however, quantity-wise decline in export, i.e. 42,196 tonnes in 1977-78 against 44,357 tonnes in 1976-77. During the first of 6 months of April-Septebmer 1978, the exports were 19,225 tonnes valued at Rs. 115 million marking an improvement over the exports in the corresponding period of the last year.

To popularise the use of coir and coir products within the country, the Coir Board is running 14 Show Rooms and Sales Depots in important towns and cities. The total sales of coir and coir products through these depots amounted to Rs. 6.822 million in 1977-78. The Board also appointed accredited dealers all over the country and currently there are 53 such dealers.

The Central Coir Research Institute, Kalavoor continued its R and D activities into various important areas like extraction of fibre, dyeing and product development. The Institute also renders technical assistance and consultancy services to the industry at large. The National Coir Training and Design Centre of the Coir Board provides training courses to artisans and others engaged in the industry. The Demonstration-cum-Extension Scheme of the Board at Thanjavoor (Tamil Nadu), Arsikere (Karnataka) and Naraspur (AP) trained candidates from the brown fibre sector. The powerloom factory of the Board, viz., Hindustan Coir, produced a total quantity of 63,133 sq. metres of high quantity coir matting.

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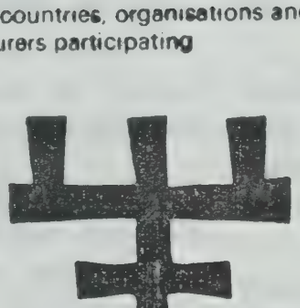

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economic and commercial news

News Highlights

India Participates at International Men 's Fashion

At the recently concluded international men's fashion week at Koeln, Indian firms participating under the aegis of the Apparels Export Promotion Council and the Handloom Export Promotion Council secured business worth approximately Rs. 8 million. India also participated at the Offenbach International Leather Goods Fair for the first time. The organisation was arranged by the State Trading Corporation of India (STC). Orders worth Rs. 170,000 were booked on the spot and further business worth Rs. 820,000 is expected.

Indo-Kenyan Cooperation

The Star Textiles of Bombay and the Directorate of Training, Kenyan Ministry of Labour signed recently a formal agreement for the setting of Ksh 45 milion textile training unit at Nairobi, of which the latter would supply machinery equipment and technical services worth about Ksh 36 million.

Indian Firm Awarded Overseas Contract

M/s. Jessops and Co., Calcutta were awarded a contract recently for supply

(Contd. on page 2)

Export Performance and Potential

BHEL Awarded New Overseas Contracts

India crossed a major landmark when the Bharat Heavy Electricals Limited (BHEL) fired the first of two 120 MW boiler at Tripoli recently. The event at Libya has been regarded memorable by BHEL, for it was the biggest single engineering export order secured by India abroad.

BHEL's role assumes significance in the context of the decision to establish an Indo-Libyan joint electrical construction company with mandate to undertake complete power development of Libya as also such projects outside Libya which are sponsored by the Libyan Government.

When the present extension project is completed by BHEL, the Tripoli west power station with an installed capacity of 565 MW will have become one of the biggest power stations in the whole of North Africa.

Apart from Libya, BHEL has been sharing its experience with many other developing and developed countries. In Malayasia alone, it has won five successive orders for boilers of a total generating capacity of 1110 MW.

New Zealand from the developed world has reposed its confidence in BHEL by ordering two hydro generators of a total capacity of 544 MW. BHEL will also supply two hydro generators of 30 MW each for the Kulekhani Project in Nepal.

Among others, BHEL was awarded a contract for the supply of three hydro turbines of 28.04 MW each for the Pattani Multipurpose Project at Thailand. It has been entrusted with an 80 million dollor composite contract

of 20 broad guage passenger coaches to Bangladesh Railways. The contract is valued at over Rs. 20 million. M/s Jessops are also supplying a 20 ton breakdown crane and a 30 ton gantry crane to Bangladesh Railways.

Mechanisation of Agriculture in True Perspective

While inaugurating a new complex of the International crop research centre for semi arid tropics at Pattancheru recently, the Prime Minister of India, Shri Charan Singh said that modernisation of agriculture should not automatically imply mechanisation. In countries like India where generation of opportunities for gainful employment is the most challenging task, mechanisation of modernisation of agriculture should lead to labour diversification and reduction of drudgery rather than displacement of labour

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for the electrification of Wadi Jazen in Saudi Arabia. BHEL will construct two new substations on Zanzibar island in Tanzania. It has also won a Rs. 25 million contract in Ghana marking BHEL's first entry into West Africa.

Notable Hike in the Export of Garments

Cotton textiles may well become one of the leading foreign exchange earners for the country. During April-June, 1979, the export of quota items of garments alone has been almost Rs. 2000 million. This is higher by Rs. 250 million compared to the entire cotton garment exports (including quota and non-quota items) during the corresponding period the previous year.

Export of cotton textiles in 19 8-79 had recorded an all time high level of Rs. 6370 million. This marked an increase of Rs. 240 million over 1977-78. In 1976-77, the exports were to the extent of Rs. 6310 million.

The rise during 1978-79 was noteworthy, particularly in the background of the general despondency regarding the prospects of textile exports caused by the demand-pull inside the country, uncertainty of quotas and insufficient quotas in most of the popular garment categories.

Nearly Rs. 3410 million of export in 1978-79, i.e., 53.4 percent, is accounted for by the export of garments which has had a very fast rise during 1978-79. The increase over the previous year's level of Rs. 2710 million has been to the extent of 25.6 percent. Amidst all the problems that one saw during practically the whole of the year 1978-79, the phenomenal rise does appear to be encouraging. What is much more gratifying is that the rise in the export of handloom garments was particularly high. It rose from a level of approximately Rs. 1090 million to nearly Rs. 1400 million showing an increase of 28.2 percent.

Under India's bilateral agreements with USA and EEC which are India's principal customers, quotas have been established for various items. Some of these items, e.g. men's shirts and women's blouses, are very popular in many countries; whereas some other items are not so popular. Again, even India's shirts and blouses are not very popular uniformly in all the quota countries. With all these constraints, the utilisation of the overall garments quota was above 80 percent during 1978 in USA and EEC together. Against a quota of about 110 million pieces of garments of sensitive types, our export was nearly 90 million pieces. The utilisation of quota will have a better chance of being higher if there is a diversification in country's production base and if Indian exporters shift to such items and territories where quotas remain unfulfilled. In this group India has particularly the men's shirts for West Germany and UK and women's blouses for UK. These two categories of garments cover the bulk of the quota of the EEC and there again, a big portion is shared only by these two countries.

The overall utilisation of the garments quota in the USA and the EEC during January-June, 1979 has been around 53·4 percent as against 52.3 percent during the corresponding period in the previous year. The level of utilisation so far as is thus slightly higher; but the value is still higher which indicates that the unit value realisation has had a substantial rise.

Handloom garments export has been particularly good specially in the USA. India's total handloom garments export during 1978 was around 2.2 million dozens, a level which India have already reached during 1979 in the beginning of August.

PEC to Export Wagons

The Projects and Equipment Corporation of India (PEC) has taken up the export of wagons in a big way and has contracted for the export of about 2,500 wagons during the current financial year. The Corporation has contracted to supply 980 wagons and 50 coaches valued at Rs. 350 million to Vietnam during the year. The shipments are likely to start shortly. In addition, orders for the supply of 1500 wagons to Zambia, Uganda, Bangladesh and Nigeria are also likely to be executed during the current year.

Promoting Cooperation between India and Brazil

Soyabean oil is one of the items identified during discussions held recently between the State Trading Corporation of India and a three member delegation from the CBBE, a trading organisation of the Government of Brazil. The memorandum of understanding signed by the two sides at the end of discussions also identified printing paper and wattle extract for imports by India from Brazil. Exportable items from India have been identified as rice, chemicals and drugs, tiles, engineering products and finished leather.

The members of the CBBE delegation expressed appreciation of India's capability in the field of footwear, leather garments and finished leather and suggested that cooperation in production and marketing effort could be undertaken by both the organisations to promote trade in third countries.

Both, Mr. S. C. Bhattacharjee, STC, Chairman and Sylvio Mass De Campos, Director President, CBBE, who signed the memorandum of understanding, said that the two organisations had agreed to promote cooperation with each other with a view to developing two-way trade to higher levels.

Indo-Bangladesh Cooperation

M/s. Jessops and Co., Calcutta were awarded on July 5, 1979, a contract for supply of 20 broad guage passenger coaches to Bangladeshi Railways. The contract is valued at over Rs. 20 million. M/s Jessops are also supplying a 20 ton breakdown crane and a 30 ton gantry crane to Bangladesh Railways.

Bangladesh Chemical Industries Corporation (BCIC) and State Trading Corporation of India (STC) concluded a contract for supply of 7000 tons of newsprint and 6000 tons of writing paper worth Tk. 100 million to India. This is the single biggest export order for BCIC during this year. It will also be first export of writing paper to India after 1972.

EEPC's Market Survey of Nigeria

With a view to studying the real situation, prevailing in the Nigerian market, the Regional Manager of Engineering Export Promotion Council, Nairobi visited Lagos recently and called on a number of parties. Opportunity was also availed to visit parts in Lagos, Apapa, and Tincon island. Discussions were also held with the 1st Secretary Commercial Attache of the Indian High Commission in Lagos.

The following have been the conclusions and findings :—

(a) The market is flooded with bicycle parts and components.

(b) Credit squeeze introduced during early 1978 has now taken an accute shape.

(c) Importers are not in a position to clear further goods.

(d) Port rent charged by the Nigerian port authorities are on the high side.

(e) Nigerian port authorities periodically auction goods lying in the wharehouse after certain period.

(f) While consignments are cleared by the importer, the port authorities do not take so much care to hand over goods as per invoices/bills of lading, with the result that cross delivery becomes normal.

(g) Banks in Nigeria generally do not follow up the cases, where goods were cleared on D/A basis. Even for deputing their representatives, one has to check whether or not the importer is available at the address mentioned in the invoices. For such transaction, the banks would be debiting Naira 25 (Rs. 340) approximately ; and

(h) It is a regular feature that the shipping companies discharge some of their cargoes in ports other than the one mentioned in the Bill of Lading, under the normal flexibility clause provided at the back of B/L. Goods discharged in other ports are not normally cleared by the consignees.

Both the Indian High Commission in Lagos as well as EEPC has been

cautioning Indian exporters to exercise utmost vigilance. The Council has reiterated the following points :

(a) Indian exporters while dealing with Nigerian importers, should ensure that the goods are shipped only against confirmed irrevocable letter of credit opened by reputed banks.
(b) The authenticity of the L/Cs should be checked through the bankers in India.
(c) Before finalising any deal in Nigeria, the exporters should seek clearance from the Indian High Commission.
(d) Supplies on collection basis or DA terms need not be entertained. and
(e) As far as possible, business should be dealt through reputed confirming houses.

In its credit guidelines for the year 1979-80 fiscal year, the Central Bank of Nigeria has revised the import deposit scheme. Engineering goods allowed for imports against specific import licence are : radio, receiving sets, records players, tape recorders, video cassete recorders, tape decks and stereo sets, television sets, air-conditioners and domestic refrigerators, insulated electricwire, uninsulated copper or aluminium electricwire, motorscycles, lorries, trucks, including tankers, tippers, pick-ups and four-wheel drive vehicles, computer and similar data processing machines, passenger motor cars of enginer capacity of 2,500 cc and under, gramophone records (complete), loudspeakers, amplifiers and microphones, cameras, projectors, photographic and all films and chemicals excluding films and chemicals for developing and printing films, clocks and watches, primary cells and batteries (1.5 volts) size 'D' "UMI", tubes and pipies of cast iron or steel. (not exceeding 8 cm in diameter), corrugated galvanized roofing sheet, trailers and sewing machines. Engineering goods other than these are allowed under open general licence.

With effect from January 1979, importers submitting exchange control applications for payment for imports through an authorised dealer must provide the following documents : clean report of findings issued by SGS Geneva, or an associated or agent of the company; and exchange control copy of customs bill of entry evidencing receipt of goods. Customs bill of entry will be required only when goods have been entered into customs or judging by the date of bill of lading, the goods should have arrived in Nigeria.

If any discrepancies exist between the exchange control copy of the customs bill of entry and the clean report of findings, the importer must furnish a written explnation which satisfies the Central Bank. If goods are insured under open cover, individual certificates of Insurance may not be available at the time the order is originated upon receipt of the processed form M but it is expected that when the exchange control application is made, a certificate of insurance indicating the specific goods covered must be produced.

It may be added that the engineering goods are not included in the list of goods banned for imports.

Indian Handlooms for South-East Asia

The Indian Institute of Foreign Trade (IIFT) has, in a recent survey of the South-East Asian countries, pointed out that India can get business worth Rs. 5 million a year by exporting handlooms, furnishings and made-up articles to Souh-East Asian countries. Importers in these countries, who have already placed order worth Rs. 420,000 with Indian firms, are capable of giving good business in future if they are satisfied with initial supplies.

The survey has suggested that the normal tub-dib dyeing system should be changed for a better dyeing process to ensure uniform colour as well as fastness. It feels that a few mini-dye plants should be set up at important manufacturing centres. The industry, the survey has stated, should manufacture broad strips in colours like brown, military green and light pink.

Further, as against the normal width of 48 inches fabrics manufactured by weavers at present, the survey suggests that the loom size should be increased to produce wider fabrics of 54′, 60′ to produce wider fabrics of 54′, 60′, 90′, and 120′. The piece length should be 40 to 50 metres instead of 20 metres at present and accordingly the looms should be modified.

The survey has called for strong action against the defaulting exporters who commit breach of contract and do not adhere to delivery schedules. To create awareness of handloom products among consumers in the survey countries, the Institute has made the following specific suggestions : (a) Indian missions abroad should organise fairs exclusively for handloom products on a regular basis; (b) There should be permanent show-rooms in important cities like Hong Kong, Singapore and Kualampur; and (c) Periodic advertisements should be given in newspapers.

Indo-Polish Trade to Increase

Indo-Polish trade is likely to get a boost in view of the desire expressed by the Polish Authorities to import wheat and iron ore from India in exchange of cement, coking coal,

special steels, aluminium and other industrial inputs on a long term basis.

This was stated by Mr. H. P. Nanda, President of Indo-Polish Chamber of Commerce and Industry, who recently led a 13-member delegation to that country. He said that Poland was planning to import 7 million tonnes of wheat during the current year, out of which about 3 million tonnes had already been committed by the USA and Canada. He suggested that India could export surplus foodgrains production in exchange of much needed agro-industrial inputs.

Regarding iron ore, he said that India could increase its exports from the present 30,000 tonnes in exchange of coking coal. Other industrial inputs which Poland could supply to India, include cement, special steel in the form of snipbuilding plates, coils, structural profiles, railway wheel sets, power plants and heavy mining machinery, he added.

It may be recalled that the former Indian Prime Minister, accompanied by the then Minister of External Affairs, had paid an official visit to Poland during the month of June, 197 . Leaders from both sides made a comprehensive review of development of Indo-Polish relations over the last twenty five years and emphasised the need and determination to ensure the further deepening and diversification of bilateral economic and trade relations. While expressing their particular satisfaction over the substantial growth of cooperation in the fields of mining and power, shipbuilding, machine building and aviation industries, the two sides also discussed supply of commodities like sulphur and coking coal which are in great demand in India. As a result of these high level delibrations, Polish side have set up certain working groups which will discuss prospects of further expanding trade and economic co-operation with their counterparts in India. These decisions are likely to give a boost to bilateral trade and cooperation.

EMO - European Machine Tool Exhibition

According to a press release by the Italian Embassy, Commercial Office, New Delhi, the third edition of EMO, the European Machine Tool Exhibition with world-wide participation sponsored by CECIMO-European Committee for Co-operation of Machine Tool Industries—will take place in the Quarters of the Milan Trade Fair from October 10 to 18, 1979.

As many as 1,600 manufacturers of 30 countries will participate in the Exhibition organized by the Milan Fair Authority with the co-operation of CEU—UCIMU Exhibition Centre. Exhibiting area will be over 110,000 square metres. Due to the participation of exhibitors representing almost the entire world production, EMO will offer the opportunity to see and compare, in the context of a single exhibition, the most recent products of a sector which is characterized by a continuous technological evolution.

The exhibits would include : metal cutting machine tools, lathes, milling machines, boring machines, drilling machines, unit heads, production machines, machining centres, thread producing machines, grinding machines, tool and cutter grinders, planing, shoping, slotting, broaching machines, gear cutting machines, sawing machines, cutting-off machines, non-conventional metal working machines, metal forming machine tools, presses, sheet, strip and tube working machines, wire working machines, machines for the production of bolts, screws, nuts, machines and equipment for welding, surface treatment machines and equipment, accessories for machine tools, precision tools, clamping devices, measuring instruments, electric and electronic accessories, gears and power transmission equipment, rolling and anti-fraction bearings, hardening and heat-treatment machines, testing machines and equipment.

Further Information about the Exhibition can be had from : Commissario Generale 3. EMO C/O CEU-Centro Esposizioni UCIMU-Via Monte Rosa, 21 20149 MILANO—Tel. 498.31.52 Telex : 333557 Telegr. CEUCIMU-MILANO (Italy).

Export Trade Finance

Right from the stage, the exporter enters into contract till he realises the proceeds, the ECGC's (Export Credit and Guarantee Corporation) services are available in several ways.

Not only that, in the case of exports to certain state trading organisations abroad, ECGC' services are available even when an exporter submits his bid.

Exporters are also able to get preshipment finance at an interest rate of 11.5 percent per annum. The packing credit guarantee issued by the ECGC to the banks goes a long way in enabling the banks to adopt a libera-lattitude in scrutinising the need based requirements of the exporter.

Apart from 827 individual packing credit guaratnees, ECGC has also issued 96 whole-turnover packing credit guarantees and as banks have expressed their inability to furnish them commoditywise advances covered by them, it goes to say that bulk of the packing credit advances are covered by ECGC. In the case of packing credit advances to small exporters banks are protected to the extent of 90 percent of the loss irrespective of whether the packing

credit guarantee is for individual exporter or on whole-turnover basis.

Coming to the post-shipment stage, the cover afforded to members has remained at Rs. 220 million over the past three years.

As 85 percent of manufacturer-members are in the small scale sector and a bulk of the merchant exporters may also belong to the small scale category, against the normal coverage of 90 percent of the loss for both political and commercial risks, ECGC has increased the cover to 100 percent for political risks and 95 percent for commercial risks in the case of small scale exporters whose policy limit does not exceed Rs. 500,000. ECGC may also consider relaxation in special cases, e.g. where there is one order larger than Rs. 500,000 but less than Rs. 1 million and where shipments are staggered. In the case of loss due to resale consequent on repudiation by the original buyer, ECGC compensates the small scale exporter upto 75 percent as against the normal 60 percent.

Credit limit by the ECGC is fixed on individual buyers on receipt of application for that purpose from the exporter. If the report on the buyer is readily available, the decision is given without delay and where the report is not readily available or where the reports even if available, are pretty old or do not warrant approval of limit to the extent required by the exporter, it becomes necessary for ECGC to call for fresh reports before making a decision.

Recently, ECGC has introduced the whole-turnover Postshipment Guarantee under which all post-shipment advances of a bank would be covered. The new scheme provides cover to small scale exporters to the extent of 65 percent for non-policy holders and 90 percent to policy holders as against the normal of 60 percent and 85 percent respectively. Premium is reduced to 2.5 paise per hundred rupees a month in the case of banks who choose to exclude letters of credit and to 2 paise if letters of credit are also included.

In order to enable the bank to finance the exporter not only on the basis of the contract price, but even on the basis of the domestic cost of production, ECGC issues a special type of guaratnee to the bank to enable it to finance the exporter against export incentives. During the post-shipment stage, this guarantee is known as the Export Finance Guarantee and if an exporter wants to bridge the gap between the contract price and the cost of manufacture even during the pre-shipment stage, the banks could obtain the export production finance guarantee.

ECGC introduced last year a guarantee to support overseas investments by Indian entrepreneures. The purpose of this guarantee is to give cover against the political risks of war and civil war, transfer delay and moratorium in the host country which might cause loss to the investor. Loan investment and equity investment are eligible for cover under this guaratnee. The cover may extend upto 15 or even 20 years depending on the type of the project.

Besides ECGC, the IDBI (Industrial Development Bank of India), an apex institution and co-ordinator in the field of term export finance, is also assisiting exporters by providing them with financial assistance and counselling services. The various financial facilities required by the exporters in respect of deferred payment exports are indicated below :

(i) A bid bond to be issued to the importer at the time of submission of the tender;

(ii) A performance bond in favour of the importer guaranteeing the exporter's performance under the contract;

(iii) An advance payment guarantee in favour of the importer against the initial advance payment;

(iv) Packing credit for the manufacture or processing of the goods to be exported;

(v) Negotiation of shipping and other documents under the letters of credit for the prorata down payments against shipments;

(vi) Post-shipment term export credits against the deferred receivables; and

(vii) Guarantee facility to raise finance in the importing country to meet the local expenditure in connection with the execution of turnkey projects/construction contracts.

Furthermore, commercial banks are the first source of finance. They attach importance to the provisions of credit facilities for the purpose of export of goods from India. Exports normally take place against firm orders placed by overseas buyers. These orders may or may not be backed by letters of credit opened by the bankers of the overseas buyers. From the financing bankers point of view, an irrevocable letter of credit is an excellent security but it is not always possible for the exporter to insist on a letter of credit and exports may have to be effected against firm orders only.

The commercial banks are directed

by RBI to provide export finance at a concessional rate of interest which at present is 11 percent.

Manufacturer-exporter, merchant exporter and supplier of goods to merchant exporter are eligible for export finance.

For procurement of raw material, processing, production and packing, an interim finance is granted to an exporter which is called preshipment finance.

Any advance granted to an exporter after shipment of the goods is called postshipment finance. It also includes advances granted to an exporter against the security of any duty drawback or cash subsidy payable by the government.

It is therefore in the nature of : (i) foreign bill purchase/discount limit, (ii) letter of credit negotiation limit and, (iii) advances against incentives receivables.

Indian banks, which are authorised dealers in foreign exchange, have in a short time built up considerable expertise in the technique of financing international trade. Besides, they are helping to expand the market for India's goods through their overseas offices. Branches of Indian banks operating in many part of Asia, Africa, UK, France, Japan, etc., contribute significantly to the promotion of the country's export trade.

Industrial Growth and Diversification

Increase in Steel Availability

Availability of steel in the economy in the first quarter of the current financial year has been about 90,000 tonnes more than in the corresponding period of 1978-79. According to the Steel Priority Committee, which met recently in New Delhi under the Chairmanship of Mr. Mantosh Sondhi, Secretary in the Ministry of Steel, Mines and Coal, the net availability of finished steel during the period, July-September this year will be about 603,500 tonnes more than in the corresponding quarter of 1978. The increased availability will be mainly in respect of plates, structurals, bars and rods and hot rolled (HR) sheets and coils.

Necessary advance action has also been taken to ensure the timely arrival of imports of the needed quantities of steel during the quarter, July-September this year. About 432,500 tonnes of steel are expected to arrive during July-Septebmer, the bulk of which will be in the form of plates, structurals, HR coils, sheets and semis. The total quantity received through imports during the corresponding quarter of last year was 115,000 tonnes. The supply of bars and rods will be about 19,000 tonnes more during July-September 1979 and of electrical steel sheets will be about 14,000 tonnes more. Supplies during July-September' 1979 are proposed to be about 2,685,500 tonnes against the net availability of 2,035,000 tonnes in April-June this year.

The Secretary emphasised that steps were being taken to ensure full supplies to the various sectors including the small scale units, the Railways, as well power and irrigation. The total supplies of steel to the Small Scale Industrial Corporations (SSIC) last year was 332,959 tonnes. Supplies during the current year are being stepped up to 500,000 tonnes.

The physical net increase in the availability of steel this year will be at least a million tonnes more, through the buffer stock operation and imports on back to back contracts. Meanwhile, supply of steel against export allocation to the exporting units in the first quarter of the current year has been about 20 percent more than in the corresponding quarter of last year. To make up the shortfall in the supply of pig iron in the first quarter, it has been decided also to commission one blast furnace in Bhilai recently entirely for the production of foundry grade pig iron.

Augmenting Rubber and Coffee Output

The Government of India has approved two new schemes as part of the plan to increase areas under different plantations, specially in non-traditional areas.

It has been decided that in case of rubber, the target will be to get 4,000 hectares afresh under plantation during 1979-80 and maintain the areas over a total seven year immaturity period up to 1985-86.

Statewise, the areas to be so brought under cultivation include 1500 hectares in Kerala, 300 hectares in Tamil Nadu, 500 hectares in Karnataka, 200 hectares each in Goa and Maharashtra, 1000 hectares in Tripura and 300 hectares in Assam.

The area newly planted under this scheme is expected to add 2,400 tonnes of natural rubber in 1986-87. This additional production will steadily increase to 5,600 tonnes by 1990-91.

With a view to enthusing people to take up rubber plantations afresh, it has been decided to offer a cash subsidy of Rs. 7500 per hectare for holdings upto 2 hectares and for holdings between 2 hectares and 20.23 hectares it will be Rs. 5000. It has also been decided

to pay to the growers an interest subsidy upto 3 percent. The field officers of the Rubber Board will be approximately strengthened to take up this task.

This proposal to increase production of natural rubber assumes special importance and urgency in view of the supply-demand gap now being experienced which is expected to continue in the coming few years. The total expenditure under the scheme now approved for new plantations during 1979-80 and 1982-83 would be a little over Rs. 330 million.

A similar proposal for bringing new areas under coffee cultivation has also been approved. Under this scheme from 1979-80 to 1982-83, 25,600 hectares will be brought under new cultivation afresh. Here the proposal is to pay a subsidy of Rs. 2,500 per hectare. Total cost in 1982-83 will be a little over Rs. 40 million. The idea behind granting subsidy is that the gestation period for coffee is four years and for rubber seven years, and there should be some incentive for growers to take up this plantation newly.

Excise Duty Exemption

The Government of India has exempted from the whole of the duty of excise :

(i) Polypropylene tapes if used in the manufacture of polypropylene fabrics and intended for making sacks.

(ii) Polypropylene monofilament yarn of 60 deniers and above.

(iii) Polypropylene waste arising during the manufacture of polypropylene tapes.

Maximum Prices for B. Twills

In order to provide for supplies of gunny bags at fair prices and secure their availability for various priority uses like packing of procured foodgrains, Government have decided to fix maximum prices of B.Twills (which are used for the packing of foodgrains, oil-seeds, etc.), at Rs. 484.64 per 100 bags. Notification to this effect has since been issued.

In order to ensure that the mills continue to produce the required quantities of sacking during the coming months, the mills have been directed to deliver specified quantities to DGS and D at prices not exceeding the above ceiling.

It is expected that with the enforcement of these measures, it would be possible to procure the required quantities of sacking at reasonable prices so that the prices of essential commodities are not hiked up on account of increased packing charges.

New More Companies Registered

Four hundred and seven companies were registered in India under the Companies Act, 1956 during May, 1979 as compared to 344 companies in the previous month. Of these 407 companies, 406 were limited by shares and one was a guarantee company. The total authorised capital of the 406 companies limited by shares amounted to Rs. 545.40 million.

Of the 406 companies limited by shares registered during the month, two were Government companies—one public limited and one private limited with an authorised capital of Rs. 10 million each. The remaining 404 were non-Government companies. Of the 404 non-Government companies, 30 were public limited and 374 were private limited companies with an authorised capital of Rs. 154.70 million and Rs. 370.70 million respectively.

Of the companies registered during the month, the largest number viz., 250 fell in the broad industrial group of "Processing and Manufacture". The highest number of new registration, viz., 112 were reported from the state of Maharahstra followed by Delhi and West Bengal 57 and 47 respectively. Nireteen compaines, two Government and 17 non-Government had each an anthorized capital of Rs. 5 million or more.

Steady Increase in Rail Freight Loading

Railways have been maintaining a steady increase in freight loading during the last three months.

In the first 25 days of August, the daily average originating loading was 22081 wagons on the broad gauge and 4692 wagons on the metre guage. The corresponding figures in the month of July were 21,989 wagons and 4586 wagons. In June, the daily average was 21,739 wagons on the broad gauge and 4443 wagons on the metre gauge.

While in the month of July 1979, the originating loading increased by 380 wagons on the broad gauge and 175 wagons on the metre gauge as compared to the previous month, in the first 25 days of the current month, the increase has been 92 wagons on the broad gauge and as 106 wagons on the metre gauge over the July figures.

The increase in August has been achieved despite certain adverse factors affecting loading significantly such as a week-long strike in the Singareni coalfields and breaches on the Western Railway, including approaches to the Kandla Port, both on the broad

guage and metre guage, a week-long strike in the Calcutta and Haldia ports by the port labour, heavy rains leading to landslides, water overflowing the track and heavy flooding of coal mines in Pench and Chanda fields on the Central Railway. But for these adverse features, the average daily loading during the month would have been over 700 wagons more per day.

Improvement in Coal Stocks

As a result of the increased loading on the Eastern Railway in August, coal stocks at the steel plants and the thermal power stations in Delhi, Maharashtra and Gujarat have registered an improvement.

Coal loading improved to 8756 wagens per day in July from 8588 wagons per day in June. Loading on the Eastern Railway improved from 4128 wagons in June to 4325 Wagons in July.

In August, the average daily loading upto 25th was 4470 wagons per day on the Eastern Railway despite observance of holidays by most of the collieries on August 14 and 15 on account of Janamashtami and the Independence Day.

The overall loading of coal in August is averaging 8500 wagons per day which would have been around 8900 to 9000 wagons per day, but for the week-long strike in Singareni Collieries, flooding of mines on the Central Railway and drop in loading on holidays on August 14 and 15.

The benefit of this extra loading of coal, particularly on the Eastern Railway, has gone to steel plants where the stock has improved from a level of 114,000 tonnes at the beginning of the the month to 160,000 tonnes.

The coal stock in thermal power stations in Delhi area, as well as in Maharashtra and Gujarat, has registered an improvement. At the beginning of the month the stock was varying between two and six days. Presently, it varies between three and nine days.

It has also been possible to build up the loco coal stock particularly on the Northern Railway from one to two days' stock erlier to about five days' stock of coal at present.

Strickt Enforcement of Storage Control Order

The Government of India has suggested to the State Governments a strict enforcement of the provisions of the pulses, oil seeds and edible oils (Storage Control) Order, 1977 to put a check on hoarding. The order lays down the stock limits of oil seeds and oils to be kept by the wholesalers and retailers in various categories of of cities. These limits are as under.

	Category of Cities	*Stock, limits in Quintals in the case of*		*Remarks*
		Wholesalers	*Retailers*	
(1) Edible Oil seeds including Groundnut in shells.	Category 'A' cities	1500	100	All edible oilseeds taken together. For groundnut Kernel or seed 75% of the limits specified shall apply.
	Category 'B' cities	1000	75	
	Category 'C' cities	500	50	
(2) Edible oils including hydrogenated vegetable oils	Category 'A' cities	800	25	All edible oils including hydrogenated vegetable oils.
	Category 'B' cities	600	15	
	Category 'C' cities.	350	10	

"Category A city" means a city population of 10 lakhs or more; "Category B city" refers to a city having a population between 0.3 million to 1 million; while "Category C city" refers to a city not coming in either of the other two categories.

It is hoped that as a result of implementation of these stock limits through surprise checks and consequential action, considerable quantities of oilseeds and oils which are being hoarded by a section of the trade, would come out for sale in the open market.

Implementation of Credit Policies Urged

Addressing the Chief Executives of public sector banks and Term Lending institutions recently in New Delhi, the Union Finance Minister, Mr. H. N. Bahuguna urged banks to restrain their credit expansion in accordance with the policy laid down by the Reserve Bank.

He, however, emphasised that the credit restraint policy should be judiciously implemented so as not to affect

the efforts being made to meet the credit needs of small farmers, small industry and other priority sectors. He also stressed the need for the banks providing adequate trained staff in their rural branches and simplifying their procedures to encourage small borrowers to come to them for their credit requirements. He further underlined the need for banks taking up preparation of performance plans for a three year period to facilitate integration of the district credit plans into an institutional plan of deposit mobilisation and credit deployment. He also called upon the banks to devote adequate attention to improve recovery of their dues so as to take the benefit of institutional credit to a larger number of people through re-cycling of funds.

The Minister pleaded for larger investment in construction of rural godowns, simplification of forms and procedures and continual monitoring of implementation of Reserve Bank's instructions regarding participation by the bank in employment promotion programmes.

Mr. Bhanu Pratap Singh, the Union Minister for Rural Reconstruction, underscored the need for banks increasing their credit assistance in rural areas particularly in the context of programmes taken up by the Government for generating rural employment. In this counection he dwelt upon the need for extension of bank branch network to all the block headquarters and to devote the branch expansion effort to areas specially selected for integrated rural development programme. In the context of the policy of the Government to provide support prices to sustain production of specific agricultural crops, he insisted on the need for closer block level, coordination between banks and the development agencies.

The meeting considered issues relating to branch expansion, deployment of bank funds, provision of credit to agriculture, small scale industries, small business and retail trade, implementation of margin money scheme and the scheme of differential rate of interest. It was agreed that banks would take steps to improve the implementation of accepted policies in these areas by providing bank branches at block headquarters and improving their coverage in under-banked areas and by increasing their lending in rural and semi-urban areas, so as to achieve the targetted credit-deposit ratio of 60 percent.

In regard to credit for priority sectors, individual banks which had yet to achieve the stipulated target of 33.3 per cent of their aggregate credit, agreed to take expeditious steps to reach this level within the next six months. It was also agreed that banks would implement with all the possible speed and effectiveness the scheme of differential rate of interest, so as to achieve the stipulated target of lending under scheme accounting for one per cent of their aggregate credit.

The Finance Minister in his concluding remarks advised bankers to see that trade and commerce did not get any leverage with them to let it regulate commodity trade as they liked.

Selective Approach towards Computerisation

Inaugarating an international symposium on computer application in large scale power stations recently in New Delhi, the Union Energy Minister, Mr. K. C. Pant, has asked for a selective approach in the adoption of computerisation in India. He said that the introduction of computer technology in India has always evoked mixed reactions. Some feel that computers will displace men and thereby add to unemployment. Others point to the experience of advanced countries where computerisation has led to employment of more skilled technicians and larger employment in the economy. The Minister said that the advantages of computerisation would have to clearly outwiegh the negative factors.

The symposium was sponsored by the International Federation of Automatic Control and organised by the Institution of Engineers (India).

The Energy Minister said that the country was reaching a stage where computers could be beneficially used. He said that India had, at present, an installed generating capacity of nearly 29,000 MW and another 15,000 MW was targetted to be added in the current Plan period.

The Minister said that with the evolution of larger power systems in India, it had been possible to incorporate a number of technical advances in the technology of power plants, and transmission and distribution. The size of generating units in thermal power plants had been gradually increased and technologicl advances in the field of hydro-electric plants had been significant. With these developments, power system operations and planning had become complex, ha added.

Referring to the application of computers in India, the Minister said that the use of computers to prepare operation schedules were being developed. The network planning which had become complex was being done through computer applications. Some utilities had started using computers for consumer billing. Thus application of computers in the power system was gradually going up, the Minister stated.

The Minister further remarked that power development was a highly capital

intensive activity and expansion of power supply facility accounted for the bulk of the development in the State Plan. Nearly 23 percent of the current Plan outlay would be for the power sector.

The Minister emphasised on reduction in power losses. He said that at present nearly six percent of the electrical energy generated went towards requirement of power station auxiliaries and19.63 percent towards transmission, distribution and other losses. Thus about 75 percent of the energy generated was available to the consumers. He observed that the reduction in transmission losses would save considereable investment in the power sector.

The Minister also stressed an early completion of all on going projects. He said that power being crucial to development, it was essential that all ongoing projects were completed at the earliest and maximum generation of steady power was achieved from the existing thermal units. This was all the more necessary in those States where erratic monsoon had affected the hydro electric generation. That he pinpointed that particular attention should be paid to step up capacity utilisation which was 49 percent in 1974 and rose to 56.5 percent in 1976-77. But, he said, unfortunately, the capacity utilisation declined to 48 percent in 1978. He held that a drop of more than eight percent in capacity utilisation meant losing over 2000 MW of power. It was, therefore, necessary that sufficient quantity of power ws produced to take care of the needs of growth.

Agrarian Reform Makes Strides

The Union Minister of Agriculture and Irrigation Mr. Brahm Prakash has said in New Delhi recently that India's agrarian reform efforts have been varied and while success has been far from uniform, the "fashionable" view that India's performance is an account of failure, relative to some other countries, is untrue. He was inaugurating a Seminar on Agrarian Reform and its Role in the Development Process, sponsored by the Indo-German Cultural Centre in cooperation with the India International Centre.

The Minister said that the actual strategy of agrarian reform differs from country to country and, even within a country, from region to region. The strategy would be determined by social and polit cal realities and by the resource endowments of the country or the region. Accordingly inter-country comparisons based on a partial appreciation of these realities must be avoided.

The Minister held the that transformation of rural India was fundamental. This transformation would be seen in the health of Indian agriculture, in the vastly-improved quality of rural life, in more equitable accesses to production opportunities and, above all, in peoples attitudes. Helpless acceptance of misery and of social and economic inequality, so characteristic of India's pre-independence agrarian society, had been replaced by a new confidence in man's effort to transform the future. He added that this change in the habit of mind has been the result of a process of education through implementation of practical reform measures.

The Minister went on to say that certain facts had to be faced in order to meet the challenge of poverty. Purely redistributive measures were important in an earlier phase of reform; later, what was more important was incremental production without which redistribution would only result in redistribution of indigence. This was particularly important for countries where agriculture was the economy's most dominant sector and employed the bulk of the work force. While the agricultural labour force in all developed countries declined from 123.7 million in 1960 to 78.5 million in 1975: developing market economies experienced an increase from 368.8 million to 436.8 million or of 68 million during this period. Of this, nearly 43 million were in the Far-East which included the already over-populated countries of India, Bangladesh and Pakistan. India's agricultural labour force was estimated at about 192.43 million in 1978; it had increased by more than 25 million since 1971, by more than 54 million since 1961, and by more than 90 million since 1951. What was more, the Minister said, the non-agricultural sector's share of the labour force had remained practically unchanged for almost half a century.

The Minister observed that in order that production gains were not inequitably distributed, it had to be ensured that smaller farmers had greater access to production facilities. Alongside the land redistribution programme, programmes of dispersing access to production and income opportunities would have to be evolved and implemented. For example, the small farmer has considerable difficulty in arranging finance for agriculture. He urged that the institutional finance set-up should be so designed and administered that it meets the needs of smaller farmers fully before it begins to attend to the more affluent clientele.

The Minister added that such programmes would necessitate a whole new set of administrative attitudes and procedures. It has to be recognised that the States will have to consciously assist economically weaker producers in the agriculture sector, and that this must be first charge on the States' resources, he stated.

In conclusion, he indicated that the most tangible result of agrarian reform was marked increment in the income level of low income groups. This could only result form higher employment. The techniques of promoting gainful employment would have to be evolved for specific local situations.

Science and Technology

First Experimental Launch of SLV-3

The first Experienental Launch of the Satellite Launch Vehicle, SLV-3, took place on August 10, 1979 at 0758 hrs. The launch was authorised after completion of a computrised, automatic checkout of nearly 750 monitoring points on the vehicle, poised for take off from the launcher. While the detailed analysis of the voluminous flight test data recorded by ground-based tracking and observation stations will take some time, a prelin inary analysis has been done since the test flight.

The ignition Command for the I Stage motor, which contained 8.6 tonnes of solid propellant, was executed and the vehicle lift off was normal. The vehicle maintained its pre-proggramme trajectory during the operation of the I Stage. This was achieved by an attitude control system which used a combination of secondary injection thrust vector control and fin tip control systems. Both these control svstems performed according to mission requirements. Telemetry and tracking data had confirmed the separation of the I Stage from the vehicle at 68 seconds from lift-off at an altitude of 30 km—exactly as programmed.

Subsequent to the separation of the I Stage, the data shows that the II stage control system malfunctioned due to a possible failure of one of its components. Due to this, the altitude reached by the vehicle at 118 seconds, which corresponds to the end of II stage burning, was 50 km against the programmed altitude of 72 km. How ever, the II Stage motor by itself performed normally, and II Stage separation also took place as expected.

Subsequent major events such as ignition and thrusting of the III Stage rocket motor, functioning of the III Stage control system, jettisoning of the heatshied and the guidance and control commands have been confirmed to have taken place as programmed. The burn-out of the III Stage rocket motor took place at 165 seconds as planned. The malfunction in the II Stage Control System having caused a loss of height and trajectory change, further events relating to the III stage separation, spin-up and ignition of the IV Stage, injection of paylad into orbit could not take place because of the flight terminating with a premature splash into the Bay of Bangal at 35 seconds.

The trajectory from lift-off to splash-down was continuously monitored by ground stations and a real time or instantaneous prediction of probable impact points of the vehicle was done throughout this period. SLV-3 is equipped with ful telecommend system for the destruction of the vehicle in the event of any malfunction which may endanger the safety of the inhabited areas. In this flight, the performance of the on-board and ground telecommand systems was normal and the flight trajectory was within the set saiety limits.

After the development of various subsystem of a Satellite Launch Vehicle and their ground qualification to mission specifications, it is essential to conduct experimental flights of the vehicle as a total system. This exposes the total system to the flight environments all of which are not possible to to be simulated in ground tests. This flight was the first of two such programmed experimental launches prior to the orbital launch.

The primary objectives laid down for this experimental flight were:

(i) To assemble the fully integrated SLV-3 launch vehicle system comprising 44 major subsystems and to make it ready for launch.

(ii) To test the operational readiness and performance of the launch complex and other ground support facilities.

(iii) To flight test the vehicle and evaluate performance in flight environment of the stage motors, control systems and all other vehicle sysstems.

The secondary objectives included validation of operational procedures for orbital launching, trqcking by by the Down Range Station at Car Nicobar and, finally, injection of Technological Payload in low earth orbit with nominal velocity and flight path angle.

The preliminary analysis of data indicates that out of the 44 subsystems of the vehicle, data was gathered on the performance of 34 subsystems and indications are that they performed normally. These subsystems include the first three stage rocket motors, stage separation system for two stages, equipment bay, control and guidance instrumentation and electronics telemetry and tracking systems I & II Stage control systems and heat shield. The performance data of these subsystems have also validated the design of each system for the mission requirements. As mentioned earlier, one of the components in the II Stage control system malfunctioned. The Rohini

Technology Payload, which carried monitoring and sequencing instrumentation performed normally till the splash-down. Other major subsystems of the vehicle such as the III and IV Stage separation systems IV Stage rocket motor and spin up system which were to function from 387 seconds after lift-off were intact till splash down. Their performance in flight could not be tested in this flight since the flight terminated at 317 seconds.

The planned expenditure of Rs. 205 million on this Project covers development and qualification of various subsystems, two experimental launches and one orbital launch. It also includes setting up of special facilities like checkout systems, transporter, integration and launcher-equipment. The cost of launch vehicle along (flight-tested on August 10, 1979) covering material, components and fabrication, is approximately Rs.15 million, of which the expenditure incurred towards the total material cost and external fabrication is Rs. 7.5 million.

Realisation of SLV-3-E, its integration and test flight is the result of research and developmental efforts involving several branches of technology, engineering and Science. While the major designs, development, fabrication and test programmes were carried out at the Vikram Sarabhai Space Centre at Trivandrum, 46 major work centres spread all over the country including a number of national research/educational institutions and industries are participating in the programme. This involved both hardware and software development along with associated computer programmes.

A number of ground station facilities and launch complex have been set up at Sriharikota and Car Nicobar for pre-launch checkout, launch and performance monitoring of SLV-3.

The ISRO Centres have already commenced preparations for the second experimental flight.

It may be mentioned that SLV-3 is an all-solid four stage launch vehicle consisting of 44 main subsystems including the Rohini Technology Payload. It is 22.7 m. long with a lift-off weight of 17 tonnes.

(i) The first stage is 1 m. diameter, carries a propellant weight of 8600 Kg. and generates an average thrust of 46 tonnes. First stage is controlled by fin-tip and secondary injection thrust vector control systems.

(ii) The second stage is 800 mm diameter, has a propellant weight of 3120 Kg. and provides an average thrust of 20 tonnes' The vehicle is controlled by a bi-propellant reaction control system during the second stage burn.

(iii) The third stge, also 800 mm in diameter generates an avarage thrust of 6.3 tonnes with 1978 Kg of propellant.
A mono-propellant reaction control system is provided for this stage.

(iv) The fourth stage is of 650 mm diameter and has a propellant weight of 263 Kg generating an average thrust of 2445 Kg. The fourth stage along with the Technological payload are spin stabilized at 180 rpm.

New Standards Published by ISI

Indian Standards Institution has published Indian Standard methods of sampling chemicals and chemicals products; Part II Sampling equipment, Section 1 For Solids, IS : 8883 (Part II/Sec 1).—1978 which deals with common equipment used in sampling of chemicals and chemical products in solid form. It also describes the procedures to be followed in using those equipment. It may be emphasized that the most careful work in the laboratory or quantitative results may be rendered useless if care is not taken when drawing the sample. The sample has to be truly representative of the lot, should not include material other than that to be sampled and should not change in composition before testing.

The ISI has also published of an Indian Standard Specification for Paper-Aluminium Foil Laminates for Packaging of Food and Pharmaceuticals (IS:8970-1978)—which prescribes the requirements and the methods of sampling and test for paper-aluminium foil laminate used for packging of food and pharmaceuticals.

Aluminium foil and aluminium foil laminates are susceptibles to corrosion. Consequently these should be kept dry and temperature fluctuations leading to condensation of moisture (which causes corrosion) should be avoided. The moisture content of the paper used in lamination should be below 7 percent to avoid danger of corrosion. Water vapour permeability is an important requirement for packaging of food and pharmaceuticals which will, however, vary with the item to be packed. Consequently, its value is left to be as agreed to betweed the purchaser and the supplier.

The materials used in making laminates shall be such as not to introduce into the product packed any substance which is injurious to health or which might otherwise lead to infringement of the Prevention of Food Adulteration Act and the regulations made thereunder. These materials shall also be free from micro-organisms.

Another standard published by the

Regd. No. D(C)705

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economic and commercial news

News Highlights

Indian Firm Bags Kuwaiti Contract

According to a commercial report from the Embassy of India, Kuwait, M/s. Telecommunications Consultants India Ltd (TCIL) have been awarded a contract valued at Rs. 90,000 for deloading of some telephone lines by the Kuwaiti Ministry of Communications. With this contract, the total value of the work contracted by TCIL comes to Rs. 3.52 million.

Exports of Carpets Up

The exports of Indian hand-knotted carpets have climbed up over the years. They registered hike from Rs. 664.10 million in 1976-77 to Rs. 819.60 million in 1977-78 and further marked up to Rs. 969.20 million in the following year (1978-79). The export target for the current year has been put at Rs. 1320 million.

Indian Participation in Hamburg Fair

For the first time, India is participating in the modern family exhibition for consumer products-DU UND DEINE WELT, being held in Hamburg from September 21-30, 1979. Five firms from India are exhibiting carpets,

(Contd. on page 2)

Export Performance and Potential

Promoting Indo-Italian Trade

Italy is an important trading partner of India. Indo-Italian trade has been steadily increasing over the last few years. The total trade between the two countries rose from Rs. 1,187.5 million in 1973-74 to Rs. 1,875.2 million, in 1977-78, registering an increase of 58 percent. India's exports to Italy are dominated by leather and leather manufactures. Other items of exports are clothing, cotton manufactures, jute products, tea, fish and edible oils. Engineering goods are also emerging in export profile. India's imports from Italy mainly comprise fertilisers, chemicals, elements and compounds, electric and non-electric machinery and apparatus etc.

With a view to further strengthening the two-way trade relations, the third meeting of the Indo-Italian Joint Committee for Economic Cooperation was held recently. The Indian delegation to this meeting was headed by the Commerce Secretary, Mr. C.R. Krishnaswamy Rao Sahib, while his Italian counterpart was Mr. Michele Cifarelli, Under-Secretary of State for Foreign Trade. The two teams had both official and non-official members. The inaugural session included all the members and was addressed by the Leaders of the two delegations. Subsequently, meetings were held between the various working groups and also between individual businessmen. The agreed minutes were signed on the conclusion of the meeting.

During the inaugural session, the Leader of the Indian delegation outlined the present economic situation in India, and emphasized that as far as Indo-Italian trade was concerned, the aim should be to effect a faster

garments, jewellery items, silverware and handicrafts. The Hamburg fair is patronised by 1,106 exhibitors from 33 countries. The Indo-German Chamber of Commerce has sponsored the Indian participation in this fair.

Indian Postal Expertise Abroad

India is represented by a six-member delegation at the Universal Postal Union (UPU) Congress, a specialised agency of the United Nations, being held at Rio De Janeiro. India being one of the oldest members of the UPU, has been taking an active part in it. In the technical assistance programme of the UPU, India's contribution has been very significant. Indian postal experts and consultants have gone to almost all the corners of the world to help develop the postal services of developing countries.

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increase in the volume of trade and wider diversification of the product base instead of striving at arithmetical balances of trade. He further indicated the mutually beneficial opportunities for collaboration including those in the third countries and underlined the need for better exchange of information between the businessmen of both sides and invited Italian firms to participate in the forthcoming India International Trade Fair in the form of a delegation. The Italian Leader stressed the existing scope for higher and more balanced level of trade exchanges and also referred to the means of increasing imports from Italy particularly through substantial amounts for unutilised suppliers' credits. He further called for quick completion of agreement to avoid double taxation and to fiscal evasion and also pinpointed the need for simplification of procedures which at present hinder imports into India.

The major issues discussed related to trade and general industrial cooperation and financial and credit matters.

It was recognised that the trade exchanges so far have been well below the potential existing in the two economies but the recent rapid increases portend good prespects. Trend towards diversification of Indian exports was appreciated as also the gradual liberalisation of India's import policy. In this connection improving and strengthening channels of communication an information between the two sides was emphasized.

Joint cooperation in third country projects based on joint bidding, post-tender negotiations and sub-contracting was considered promising. Engineering products, construction and consultancy sectors were specially mentioned.

The Indian delegation called for a more liberal EEC import policy in the textile sector which may lead to enlargement of existing quota. The Italian side was particularly requested to accept a higher share of EEC quota specially in the more popular categories of textile products. The Italian side expressed understanding but emphasized and explained the importance of Multifibre Agreement of the EEC to it. The Indian delegation also explained its concern for the recent MFN tariff rates which would substantially erode the GSP benefits particularly for products-range of India's interest in the export of tobacco to the EEC. Italian side took note of this but recalled that this fell within exclusive competence of the EEC.

The Indian side particularly invited Italian participation in the India International Trade Fair of 1979 and the Italian side agreed to give further consideration to the Indian suggestion, for participation in this and subsequent Indian fairs. A delegation of Italian industrialists and businessmen has been invited to visit India at the time of the fair.

It was hoped that further talks on the bilateral shipping agreement would take place in autumn 1979.

The importance of industrial cooperation projects in pomoting and stabilising an upward trend in economic relations was emphasized. It was noted that 170 Indo-Italian collaborations have already been established, several of which were in the last year alone and that a much larger unutilized potential still existed as small and medium sized enterprises were not yet adequately represented. Besides explaining Indian procedures and methods for accelerating processing of applications for licensing new units

as well as for import of components and capital goods, a list of 57 items in which there is a scope for foreign technical collaboration, was provided to the Italian side. Detailed discussions were held on leather goods and hides on possibility of establishing joint ventures in that sector as well as industrial cooperation in food processing and dairy products machinery, diesel engines, chemicals, consultancy, electronics, fertilizers, energy, water treatment and environment projects.

It was found that unutilized credits pledged upto and including 1979-80 totalled more than US dollars 65 million. Recognising the need for expediting the use of these credits, a new procedure was agreed upon. It was also mentioned that Italian side would be favourably inclined to consider credits over and above the amount permitted in the Aid India Consortium particularly for large purchases of plants and machinery in the framework of international agreements. It was also hoped that double taxation agreement would be concluded shortly. The two sides agreed that there was hope for expansion of the Italian technical assistance to India.

Indo-Swiss Trade Trends

India's trade with Switzerland has been growing over the years. India's exports to Switzerland rose from Swiss Francs 85.4 million in 1975 to Swiss Francs 278.6 million in 1976. They amounted to SF 196.8 million in 1977 and SF 157.1 million in 1978. During the first six months of the calendar year 1979, India's exports stood at SF 81.9 million. The main items of export were silver, refined precious stones, knotted carpets, garments, raw coffee, gold/platinum jewellery, organic chemicals, dried vegetables, jute fabrics, household linen, tea, travel goods, machine tools for metal carbides, cashewnuts, hand tools, files and rasps, coir yarns, antiquities and so on. India's imports from Switzerland more or less veered round SF 137 million in 1975 and 1976 and then marked up to SF 165.4 million in 1977 and further to SF 195.7 million in the year that followed. During the period January to June, 1979, India's imports aggregated to SF 115.0 million. The main import items comprised machinery and mechanical equipment, electrical machinery and equipment, organic chemicals, instruments, clocks, watches and parts thereof, plastics, precious stones and miscellaneous chemical products.

According to a commercial report of the Embassy of India, Berne, a number of steps were recently taken for promotion of Indian goods. For 7 weeks the Globus Department Stores at Zurich, Glatt shopping Centre, Basel, St. Gallen, Chur, Aarau and Berne presented a veritable festival of Indian arts and crafts under the slogan "A Breath of India". The fascinating and colourful show of carefully selected Indian products such as garments, textiles, carpets, imitation jewellery, brassware, woodwork, cane furniture, basketware, footwear, leather goods, spices, pickles, fresh fruits, tea, papier mache articles, agarbatties, ceramic flower pots, etc. was a success. The promotion commenced on the day as planned and gala programmes were held on the inauguration day at all the stores. The Ambassador of India was the principal guest at the press reception arranged by Globus Berne. The Commercial Representative attended the reception in Zurich.

As part of the publicity compaign, 6 different full page advertisements appeared 80 times in 19 leading and regional newspapers. In addition 400,000 copies each of 2 illustrated 16-page brochures in colour were distributed to Globus clients by direct mail and at the stores. As another publicity measure 40,000 large size Globus postcards were sent to India to be mailed from there directly to Globus clients. Visitors to the store were eligible, among other things, to participate in a lucky draw which offered trips, to India for three groups of 4 persons each with a fabulous feast at a Maharajah's palace thrown in, 200 gift vouchers of S Frs. 100 each and hundreds of caskets of Indian tea and spices.

As expected, the various newspapers carried glittering accounts of the Globus promotion and the Indian products on display.

In close cooperation with the Globus stores, 17 branches of the Gonset Department Stores in the French-speaking regions of Switzerland held special promotions for Indian garments and all kinds of arts and ctafts, etc. for a month. Visitors could take part in an easy quiz on India for which the first prize offered was a 12 day trip to India (worth SF 2550) and the second one that of a 7 day trip to London (worth SF. 720) both journeys with the collaboration of Air India.

Taking advantage of the intensive and extensive publicity for India by the Globus stores, several restaurants in various cities of Switzerland held special fortnights devoted to Indian cuisine. The Indian Embassy furnished addressed of dealers in spices, recipes, available literature on food products etc. while the India Tourist Office in Geneva sent them publicity posters and literature on tourism.

Messrs Mobel Pfister of Suhr, one of the largest retailers of household furniture and furnishings with 24

branches all over Switzerland, continued with their special promotion of Indian carpets at the shopping centre "Rhein-Park" at St. Margrethen in 1979. The ealier promotion was held in the shopping centre in Mels-Sargans in February. A large number of tourist posters were supplied by the India Tourist Office, Geneva for this purpose. Similar promotions will be held in the near future, as the first two events proved to be a great success.

In the tourism sector of this Fair, Swiss Industries Fair held in Basal recently, the India Tourist Office of Geneva had a stand at which a carpet-knotting demonstration by a master-craftsman deputed by HHEC, New Delhi and the tea-sampling arranged by the Indian National Office for Tea, Brussels, attracted the keen interest of the visitors.

Export Performance of SSI

Small Industries contributed 16.52 percent towards total exports of the country during 1977-78 as against 15.98 percent in 1976-77, according to the data compiled by Small Industries Development Organisation (SIDO) based on the information provided by various export promotion councils.

The rate of increase in small industry exports was, higher to rate of increase in total exports from the country.

Some of the product groups showed a significant increase in 1977-78 over 1976-77, e.g. rubber manufactured products—52.95 percent; essential oils —46.55 percent; marine products—44.28 percent; cashew kernels and cashewnut shell liquid—37.85 percent; ossein, glue and gelatine—36.45 percent; lac—29.86 percent- aggarbatties —25.69 percent. On the other hand, there has been a decline in certain areas (e.g. dyes intermediates, coaltar, chemicals and alcohol—54.72 percent; others—36.13 percent; processed tobacco, snuff, bidi—20.16 percent; E.I. tanned hides and skins and blue wet chrome tanned hides and skins—19.76 percent).

The following table and the table given on next page give the detailed information in this regard.

(Rs. in million)

Sl. No.	*Items*	1975-76	1976-77	1977-78
1.	Total exports from India	39416.2	51420	53761.9
2.	Total exports from small industry sector	5321.09	8221.98	8885.02
3.	Percentage of SSI exports to total exports	13.49	15.98	16.52
4.	SSI—traditional exports	1674.75	1921.59	2125.51
5.	SSI—non-traditional exports	3646.34	6300.58	6759.51
6.	Percentage of non-tradtional SSI exports in total SSI exports	68.52	76.63	76.08

MAJOR EXPORT PRODUCTS OF SMALL SCALE INDUSTRIES

(Value in Rs. million)

Sl. No.	Product Groups	1975-76	1976-77	1977-78
1.	Engineering goods	439.678	716.824	820.00
2.	Drugs, pharmaceuticals and fine chemicals	61.977	94.683	113.246
3.	Dyes intermediates, coaltar, chemicals and alcohol	12.329	57.061	25.834
4.	Aggarbatties	27.428	40.140	50.455
5.	Essential oils	3.221	9.189	13.467
6.	Rubber manufactured products	11.550	11.520	17.620
7.	Ossein, glue and gelatine	6.690	10.450	14.260
8.	Plywood and plywood products including wooden furniture and wooden cork manufacture	10.680	17.680	21.480
9.	Plastic products	84.500	137.5	124.300
10.	Lac	51.000	39.040	50.701
11.	E.I. tanned hides and skins and blue wet chrome tanned hides and skins	733.564	902.649	724.279
12.	Finished leather and leather products	359.239	909.230	820.761
13.	Cashew kernels and cashew nutshell liquid	890.186	979.708	1350.533
14.	Marine products	608.076	1038.896	1499.000
15.	Processed foods	175.337	298.568	296.334
16.	Woollen hosiery	678.132	980.000	1015.839
17.	Readymade cotton garments and cotton hosiery	953.490	1682.610	1644.080
18	Rayon and synthetic products	20.645	27.845	30.505
19.	Sports goods	110.600	162.2	181.100
20.	Processed tobacco, snuff and bidi	18.048	21.358	17.052
21.	Others	64.722	84.828	54.176
	Total	5321.092	8221.979	8885.022

Export Duty Exemption on Instant Coffee Extended

The Government of India had, by a notification issued in August, 1978, exempted instant coffee from export duty leviable thereon.

This exemption was granted in order to improve the competitive position of Indian instant coffee in international markets.

The exemption has since been reviewed and has now been extended upto the end of February, 1980.

Indo-Tanzania Accord on Double Taxation

An agreement between the Governments of the United Republic of Tanzania and India for the avoidance of double taxation and the prevention of fiscal evasion with respect to taxes on income was signed in Dar-es-Salaam recently. The Minister for Finance and Planning, Mr. Edwin Mtei signed on behalf of the Government of Tanzania while Mr. A. S. Gonsalves, High Commissioner for India, signed on behalf of the Government of India.

Training in Standardisation by ISI

Government of Trinidad and Tobago began course training in standardisation for developing countries of the Caribbean co-sponsored by Indian Standards Institution (ISI). ISI has sent Mr. Y. S. Venkateshwran, Additional Director General as course director. At a function to mark opening of the course, Minister Senator Gordon profusely thanked India for assistance in this vital field. ISI has gifted a complete set of Indian Standards to Tandt Bureau of Standards. Officials of Tandt Bureau of Standards had also been trained in India.

India at UPU Congress in Brazil

Significant issues like the abolition of the concept of distant countries, organisation of postal training by correspondence, revision of basic air-mail conveyance rates, self-financing of the Universal Postal Union and representation of non-self governing territories will be decided at the 18th quinquennial Congress of the Universal Postal Union (UPU), a specialised agency of the United Nations, being held at Rio-de-Janeiro, Brazil from September 12 to October 26, 1979. India has been represented by a six-member delegation at the Congress.

Besides these issues, the Congress will deliberate on the future of postal services which have been threatened in recent times by factors like the increase in production costs, certain failure to adapt the traditional postal services to customers' need which are constantly changing, and the relatively recent and extremely rapid technological developments linking telecommunications to data processing (teleprocessing). With the delinking of gold of major world currencies, the UPU has before it a proposal to change its monetary unit "the gold franc" to new unit "SDR".

The Congress will also examine and formulate the Technical Assistance Programme (TAP) for the developing countries, within the overall framework of the United Nations Development Programme (UNDP).

The Congress also has before it proposals for the introduction of a new service called "The Verification of Address as Service" and the creation of "A Collective Items Agreement". In all, the Congress will be deciding on over 1500 proposals received from various countries. India has submitted 60 such proposals aimed at improving the International Postal Services.

The Universal Postal Congress is the supreme body of the UPU consisting of member countries. In principle, it meets every five years to modify and amend the acts of the UPU taking into consideration of all round social, economic and technological growth that has taken place in the preceding five years. The UPU Congress at is another landmark in its long history.

It may be recalled that India, being one of the oldest members of the UPU has been taking an active part in it. At present, India is a Vice-Chairman of the Consultative Council for Postal Stadies, an important organ of the UPU dealing with technical operational, economic and technical cooperation questions concerning the postal service. Besides contesting elections to the Consultative Council for Postal Studies, India will also be contesting elections to the Exective Council, another important body of the UPU which ensures continuity of the work of the Union between the Congresses.

In the technical assistance programme of the UPU, India's contribution has been very Significant. Indian postal experts and consultants have gone to almost all the corners of the world to help develop the postal services of developing countries. Two officers from India are imparting training at the Postal Training School in Bangkok.

It may be mentioned that the Universal Postal Union came into existence in 1874 when plenipotentiary delegates from 22 countries signed a Treaty of Berne which established the first collective convention governing the International Postal Service. India became a member of the UPU in 1878. The UPU became a specialised agency of the UN in 1947.

The Postal Administrations of Commonwealth countries had met before the Rio Congress, at Bridgetown (Barbados) from September 3—5, 1979 to work out a common strategy on problems of, mutual interests. Mr. Daljinder Singh Member (Postal Operations) of the P and T Board, represented India at this meeting.

Industrial Growth and Diversification

Improving Hand-knotted Carpet Sector

In order to promote further development of the hand-knotted carpet sector, it has been decided that all Government purchases of carpets should be confined exclusively to the hand-knotted sector. All Ministries and Departments of the Government of India have been asked to ensure that the purchases of and indents for carpets are made in accordance with this decision.

A press note says the hand knotted carpet sector is an important segment of the decentralised sector and provides employment to a large number of persons particularly in the rural areas. It is also important in terms of sustaining and developing traditional arts and crafts based on utilisation of indigenous skills and indigenous resources in the rural areas. A number of promotional measures are being taken for providing direct inputs to this sector by way of training, marketing, managerial, technical as well as research development assistance.

The steps taken for development of this sector for the last two years include :

(a) Undertaking massive training programmes for carpet weaving. 1,300 carpet weaving training centres were established as compared to only about 250 existing two years ago. These 1,300 training centres were set up in various parts of the country particularly in rural concentrations of traditional carpet weavers. Through the special training programme, 45000 persons were inducted in the production of carpets.

(b) The intensive training programmes have been continued and in the current year 1979-80, 600 training centres will be directly run by the All India Handicrafts Board. These centres will cover several rural areas in Jammu and Kashmir, Rajasthan, Uttar Pradesh, Bihar, West Bengal, Assam, Madhya Pradesh, Orissa, Karnataka and Tamil Nadu.

(c) An institute for Carpet Technology in Bhadoi in Uttar Pradesh has been sanctioned and is being set up by the Handlooms and Handicrafts Export Corporation.

(d) Common facility centres are being set up and four procurement centres are also being set up with funds provided by the All India Handicrafts Board.

As a result of these various measures, production and employment in the hand-knotted carpet sector has shown a significant increase. Against an annual average production base of about Rs. 420 million, of which Rs. 350 million was exported, the increase in production and exports is as follows :—

(Rs. in million)

Year	*Production*	*Exports*
1976-77	730.5	664.1
1977-78	901.5	819.6
1978-79	1066.1	969.2

The target for production in 1979-80 is about Rs. 1320 million and for exports is about Rs. 1200 million. The employment which was at the level of 150,000 workers, has gone up to about 210,000 workers and in this year, it is expected to go up to 270,000.

More Import Licences to Small Industries

The value of import licences issued to small scale industrial units during the year 1978-79 shows a 71 percent increase over 1977-78. The values for 1978-79 and 1977-78 are Rs. 1845.80 million and Rs. 1077.50 million respectively. The average value per licence went up from Rs. 95,000 in 1977-78 to Rs. 205,000 in 1978-79.

The share of the small scale units in the total value of licences issued during 1978-79 was 4.6 percent. The share of small scale industries sector in the total value of licences issued for raw material imports in the manufacturing sector was 36.48 percent.

Considering the licences issued by the offices located in different places, the share of small scale sector to the total value of licences was seen to be maximum in the case of Ahmedabad.

The maximum amount of licences to the small scale sector was issued by the Bombay office (39.02 percent) followed by Calcutta (9.4 percent).

The value of licences issued to small scale industrial units varies from less than Rs. 5,000 to Rs. 10 million. However, nearly 80 percent of the units have received licences ranging from Rs. 10,000 to Rs. 500,000. In terms of value, this group constitutes 50 percent of the total. About 25 percent of the total value of licences (Rs. 469.80 million) was accounted by the value range Rs. 500,000 to Rs. 2.5 million.

Out of the 9,017 small scale industrial

the past few years have witnessed a significant expansion of commercial banks' branch network especially in the unbanked rural areas. There has also been an increasing involvement of banks in providing credit to the economically disadvantaged borrowers in priority sectors. Even so, a vast number of such persons have yet to benefit from the various measures which have been initiated. Lending policies of the banks to benefit the weaker sections of the community are under constant review. One of the important impediments in the way of further progress in this direction is the lack of timely and adequate information regarding such facilities. Thus, the monthly publication has been launched with the object of filling this gap and conveying to the public the banking and credit policy decisions of the Reserve Bank without delay.

The Review is designed to explain in simple language the circulars issued by the Reserve Bank from time to time. Copies of the Review will be sent directly to all branches of banks, besides head offices, regional offices and zonal offices.

While the Review will provide ready information on the policy decisions taken by the Reserve Bank, the head offices of banks will issue instructions separately to the regional/zonal/branch offices for the proper implementation of advices/instructions contained in the Reserve Bank's circulars. Copies will also be sent to the General Managers of District Industries Centres, Block Development Officers, District Collectors and other concerned Central and State Government Departments.

In order to facilitate easy dissemination of credit information among borrowers, the Review will be distributed widely among trade associations and chambers of commerce, AIR offices, news agencies and newspapers (English and local language papers) throughout the country.

Independence Day Awards for Meritorious Inventions

National Research Development Corporation of India (NRDC), a Government of India enterprise in the Department of Science and Technology, has announced Independence Day (1979) Awards for meritorious inventions. Awards totalling Rs. 33,000 have been given for 10 inventions. Financial assistance amounting to Rs. 25,000 has been sanctioned for development of 2 inventions.

The highlights of the announcement are four awards of Rs. 5,000 each for the development of (1) low cost wind mill for pumping water and grain pounding operation suitable for coastal locations, (2) one-hand operated control for driving vehicles suitable for handicapped persons, (3) a process for production of dehydrated green pepper and buff coloured white pepper and; (4) process for the manufacture of nitrile rubbers.

Details of awards and financial assistance are given below :—

AWARDS :

1. M/s. V. Geethaguru and C.V. Seshadri of Shri A M M. Murugappa Cherriar Research Centre, Tharamani, Madras have been jointly awarded Rs. 5,000/- for the development of a low cost wind mill useful for pumping water and pounding grain. The wind mill is particularly suited for coastal locations and can be fabricated from locally available materials.

2. Dr. Sukriti Ranjan Gupta of New Delhi has been awarded Rs. 5,000 for development of one-hand operated control for driving vehicles suitable for handicapped persons. The invention relates to the development of a one-hand operated control system fixed suitably in front of the driving seat which provides all the five primary controls, namely, clutch, gear, steering, throttle and brake.

3. Dr. Y. S. Lewis, M/s E. S. Nambudiri, N. Krishna Murhty, S. Shivashankar, C. P. Natarajan, Dr. A. G. Mathew and Miss Sankari Kutti Amma of Central Food Technological Research Institute, Mysore have been jointly awarded Rs. 5,000 for the development of a process for the production of dehydrated green pepper and buff coloured white pepper. The process gives a higher yield of about 30 percent. Other processes and has been successfully mplemented by small scale enterprise in rural areas.

4. Dr. S. Gundiah, Dr. S. L. Kapur, M/s A. A. Gunari, M. B. Sabne, C. R. Rajan and R. A. Kulkarni of National Chemical Laboratory, Poona have been jointly awarded Rs. 5,000 for the development of a process for the manufacture of nitrile rubbers. The tam of scientists has worked out the details of the process for making different kinds of nitrile rubbers.

5. Mr. Venketaraman Ramamirtham Iyer of Bombay has been awarded Rs. 3,000 for the development of an improved tool for manufacture of socket head cap screws. It is suitable for use in small scale industry.

6. Mr. Dholaria Karsan Ramjibhai of Rajkot has been given an award of Rs. 3,000 for developing a safety device for diesel pumping sets/engines. The device mainly comprises an attachment which when fitted on the fuel pump of the engine cuts off the fuel supply when the engine gets

suddenly unloaded. It is a useful device to be used in rural areas.

7. Dr. G. Venataraman and Mr. S. Arunagiri of Bharat Heavy Electrical Ltd., Trichy have been jointly awarded Rs. 2,000 for the development of high temperature hardness testing device This device can measure the hardness both at high (upto 600°C) as well as at room temperatures.

8. Mr. B.R. Chadha of Beas Sutlej Link Project, Pandoh has been awarded Rs. 2,000 for the development of an antiseizer device for use on internal combustion engine. This device prevents engine seizers when pressure of the lubricating oil drops below the safe limit fixed for the engine.

9. Mr. Bapat Chandrashekhar Madhav of Pune has been awarded Rs. 2,000/- for development of an attachment to ordinary camera for taking three-dimensional photographs. This award is bracketted with the award announced to Mr. Satyendra Narayan Mathur on the Republic Day 1979.

10. Mr. Durgappa Rajanna of National Aeronautical Laboratory, Bangalore has been awarded Rs. 1,000 for the development of linear position transducer which has displacement range of 0-20 m.m.

FINANCIAL ASSISTANCE :

1. A sum of Rs. 15,000/- has been sanctioned to Dr. S.P. Mallikarjun Rao and Dr. E.S. Chari of College of Science, Osmania University, Hyderabad for developing a direct reading digital ultrasonic velocity meter.

2. A sum of Rs. 10,000 has been sanctioned to Mr. Jagdish Vaswani of New Delhi for developing hydro-pneumatic point machine for use in the Railways.

Science and Technology

Convention of Information Scientists

A convention of representatives of Information Centres under the National Information System for Science and Technology (NISSAT) was held recently in New Delhi. The objective of the convention was to evolve compatible formats and procedures for collection and storage of information and its dissemination; and to evolve uniform strategies for active marketing of information products and uniform pricing policies. The convention analysed areas of overlap of activities of different centres and recommend ways and means to minimize it. The problems encountered in setting up of Sectoral Centres, manpower employment and acquisition of documents and equipment were also be discussed.

The convention was attended by over 35 information scientists representing various sectoral centres and academic institutions.

NISSAT aims at providing national information service relevant to present needs, capable of meeting the future needs and optimum utilisation of existing information service. At present NISSAT has four Sectoral Centres on leather technology, food technology, machine tools and drugs and pharmaceutical.

Twenty more sectoral centres are proposed to be set up which will cover natural resources, energy, industries, environment and ecosystems, transport, communications, health, agriculture, housing and urban development.

Besides the sectoral centres, NISSAT network comprises the regional systems and other specialised services. Regional centres will act as the NISSAT contact point in each major area of R and D, educational and industrial activity. Six such regional centres are proposed.

The specialised services include computer based SDI services using commercial data base; on line access to foreign data bases, national facility for document supply; and building up of central data bases of themes of national relevance.

CECRI Upgrades Technology for Aircraft Batteries

The Central Electrochemical Research Institute (CECRI), Karaikudi, has achieved notable success in the field of technology for the manufacture of suitable batteries for aircraft, according to the Technology Awareness Service of the Council of Scientific and Industrial Research, New Delhi.

Considerable research work is being done all over the world for developing a battery with a very high capacity to low weight ratio as an alternative source of energy, so that dependence on the dwindling mineral resources could be reduced. Although the breakthrough appears elusive, systematic studies and developmental work in the field have led to upgrading of the technology for battery manufacture and improved chemical formulae suited to exacting conditions in aircraft and ground installations have been evolved. CECRI has, through its R and D work, achieved considerable success in this field. The know-how for the preparation of aircraft battery has been developed upto a stage where it can be exploited commercially.

The aircraft battery, unlike the ground battery has to pass very stringent operational standards. Its reliability and performance under adverse high altitude conditions must be extremely

rate very high. The Hindustan Aeronautics Limited (HAL) Bangalore Complex had been importing batteries in large numbers to cope up with the high rejection rate; the rejected batteries were sent to scrap yards. As a result of work done at CECRI, the HAL has been able to manufacture their own aircraft batteries and also reclaim rejected batteries for recycling to aircraft by rebuilding, thus saving valuable foreign exchange.

Except a few bought auto items, HAL manufactures all the components of the battery. Aircraft battery sizes have been designed to satisfy all the aircraft requirements. The batteries manufactured generally are 12V-13P; 12V-17P; and 24V-9P. While manufacture and rebuilding of a battery are relatively simple, great care is needed in making plates. After the selection of an appropriate formula, depending upon the applications, the chemicals are blended in an electrical machine. The resulting paste is applied to the lead-grids and dried before forming. A number of factors affect the quality of the finished product and these have to be controlled carefully during pasting. These included the physical and chemical characteristics of the oxides, the temperature and strength of acid solutions, the duration of mixing, the mixing temperature and the quality of expanders used.

HAL has obtained another formula suitable for ground batteries from CECRI for the purpose of meeting the requirement of a fleet of buses and trucks owned by HAL divisions. To-date, HAL has a total of about 650 batteries and plans to produce 300 batteries annually. The batteries have been approved after rigorous inspection for reliability, life cycling and environmental conditions at the Controllerate of Inspection Electronics, Bangalore.

HAL is also seeking collaboration of CECRI, in the manufacture and rebuilding of lead acid aircraft batteries by Varley method. In this method, the plates and separators are assembled together under compression to form a porous solid block. The lead acid batteries built by Varley method have proved to be far superior electrically and mechanically to the imported ones, with attendant features of being light, small in size and giving better performance.

Revision of Indian Standard Specifications

Indian Standard Institution has published the second revision of an Indian standard specification for whiting for paint and putty (IS : 63-1978) which prescribed requirements and methods of sampling and test for whiting for the manufacture of paint and putty. Whiting, a naturally form of calcium carbonate, is used as an extender in paints and also in the manufacture of putty.

This standard was first published in 1950 and subsequently revised in 1964. In this second revision two types of the material have been covered, namely whiting for paint and whiting for putty. For whiting used as extender in paint industry three grades have been prescribed. Additional requrements for pH value, silica content, settling tendency and microscopic examination for whiting for paint and pH value for whiting for putty have been included.

Indian Standards Institution has also published the first revision of an Indian standard specification for barytes for chemical industry and oil well drilling (IS:2881-1978) which prescribes requirements and methods of sampling and test for the material commercially known as barytes, intended for the preparation of barium compounds and for oil well drilling. Barytes, the sulphate of barium, also known as 'heavy spar', is extensively mined in Andhra Pradesh and Rajasthan. It is one of the major minerals for export amongst non-metallic minerals. The demand for barytes is mainly for paints and oil well drilling. Small quantities are also used in the chemical industry for preparation of barium compounds and in rubber and explosive industry. The paint industry takes mostly the best grade white material.

This standard was first published in 1964. It is being revised in the light of the experience gathered in production and consumption patterns of the material during three years. In the revision following major changes have been affected :

(a) The material of Grade 1 shall have two qualities, namely, Quality A and Quality B; an the specification for the material of Grade 1, Quality A is the same as that of Grade of the original version of the standard except that the limit for calcium and magnesium has been lowered to 1.0.

(b) Performance test has been prescribed for the material of Grade 2 ;

(c) For the material of Grade 2, barium sulphate content has been lowered to 90.0, the limits for impurities have been prescribed and changes have also been made for requirement for fineness.

(d) One more method, namely, insolubles minus silica method, has been incorporated for the determination of barium sulphate ; and

(e) Iron and aluminium limits are being given individually in place of mixed oxide limits.

Indian Standards Institution has also published the second revision of an Indian Standard Specification for EC grade aluminium rod produced by rolling (IS:1841-1978) which covers the requirements for EC grade aluminium rodraw rods, 9.5mm in nominal diameter, produced by rolling for electrical conductors.

This standard was first published in 1961 and subsequently revised in 1971. A further revision has now become necessary to include the requirements of an additional grade of aluminium with a controlled Si/Fe ratio which is also suitable for production of rods, by wire-bar rolling processes.

Several factors play vital part in controlling not only the conductivity of the conductor but also its strength and elongation. One of the vital factors for grade 3 aluminium is Si/Fe ratio. This material offers a composition for manufacturing wire-rods to obtain optimum properties required for purposes of insulated cables, flexible cable, telephone cables, winding wires, covered conductors, etc. However, wires produced from Grade 3 aluminium has to be subjected to intermediate annealing at an appropriate size of wire during wire drawing to obtain the specified electrical conductivity in the finished conductor.

Indian Standards Institution has publishes the third revision of Indian Standard Specification for Leather Safety Boots and Shoes Part I For Miners IS:1989 (Part I)-1978 which prescribes the requirements and methods of sampling and test for leather safety boots and shows for miners.

Safety boots and shoes for miners and for workers in heavy metal industries were covered in separate standards, namely, IS:1989-1967 Specification for miners safety leather boots and shoes *(first revision)* and IS:3737-1966 Specification for leather safety boots for workers in heavy metal industries respectively. While reviewing these standards, the Sectional Committee decided to cover both types of safety boots in one standard and to delete the details of materil, construction, etc., which were found too restrictive for the manufacturers. This standard was revised again in 1973 superseding IS:3737-1966. In the light of latest developments in the industry and the experience gained during all these years, the standard is now again being revised. This revision is being issued in two parts. Part I deals with leather safety boots and shoes intended for use of miners for protecting their feet, particularly the toes while engaged in various mining operation. Safety boots and shoes with both leather and rubber sole have been included in the standard. Leather safety boots and shoes for heavy metal industries will be covered in Part II of this standard.

Indian Standards Institution has published the first revision of Indian Standard Comparison of Indian and Overseas Standard for Iron Castings Part I Grey Iron Castings IS:3896 (Part I)-1978, which compares grey iron castings included in IS:210-1978 Specification for grey iron casting (third revision) with International (ISO), British (BS), German (DIN), French (AFNOR), Israel (SI), Russian (GOST), Swedish (SIS), American (ASTM), Italian (UNI), Czechoslovakian (CSN) and Japanese (JIS) standards. This standard was first published in 1966. The Sectional Committee has decided to revise the standard because most of the overseas standards covered have been revised.

The Indian Standards Institution has formulated specification for different types of iron castings used in the industry. It was, therefore, decided to publish comparison on Indian and overseas standards for various types of iron castings in separate parts so as to facilitate users and manufacturers to take full advantage of it.

This standard is the first in series and covers the comparison of Indian and overseas standards for grey iron castings.

Indian Standards Institution has published the first revision of Indian Standard Specification for Lime Based Blocks (IS:3115-1978), which covers dimension, quality and strength requirement of lime based blocks (both hollow and solid) used for walls, internal partitions and filler walls.

This standard was first published in 1965 and contained the essential requirements of lime-cement-cinder solid blocks. A separate standard, namely, IS:5498 was published in 1969 covering lime-cement-cinder hollow concrete blocks. The Sectional Committee responsible for the preparation of this standard, while taking up its revision, felt that the requirements for both the blocks should be brought together in one standard. Thus this revision is prepared incorporating the provision of IS:5498, which will be withdrawn when this revision is published. In this revision, the title of the standard has been changed so as to cover all types of lime based blocks and the requirement in respect of preparation of mixes, method of mixing, manufacture, curing and drying have been removed from this revision since they shall depend on individual processes.

Lime based blocks are made from lime, lime and ordinary portland cement or slag cement or portland pozzolana cement, lime and pozzolana, and lime pozzolana mixture. The blocks are manufactured by various processes devedeveloped by Central Building Research Institute; Khadi and Village Industries Commission; Central Road Research Institute and other

agencies. These blocks are economical because it ensures rapid construction, helps in saving of martar, and does not require plastering. However, it can be given an tatractive appearance; if needed, due to wide variety of finishes both for interior and exterior walls.

Farm Modernisation Does Not Imply Automatic Mechanisation

The Prime Minister, of India, Mr. Charan Singh, cautioned agricultural experts that modernisation of agriculture should not automatically imply its mechnisation.

Inaugurating the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) at Patancheru, 25 kms. off Hyderabad recently, the Prime Minister declared that in countries like India where generation of opportunities for gainful employment is the most challenging task, whatever mechanisation of modernisation of agriculture is necessary, it should lead to labour diversification and reduction of drudgery rather than to labour displacement. He expressed confidence that with such magnificent facilities, the scientists of ICRISAT will be able to fulfil the role that has been assigned to them, viz., to generate technologies which can help to elevate and stabilise crop production in the semi-arid tropics.

The Prime Minister stated that the crops chosen for research, as well as the farming systems included in the mandate, were important for the welafare of India's rural population. Over 70 percent of the cultivated area in India was dependent upon rainfall for raising crops. In fact, whenever rainfall failed in the past, there used to be no agriculture and hence there was also no employment. The result was widespreadhunger and famine. After independence, India had been able to successfully avoid famines and starvation deaths. The "Food for Work" programme, was now being operated, which was larger with reference to the quantity of grains involved than the entire World Food programme, he added.

He stressed new technology, which could help farmers to mitigate the adverse impact of aberrant weather on crop production, was an urgent need of the semi-arid tropics. It was only after 1930 that experimental stations were started by the Indian Council of Agricultural Research (ICAR) to develop improved techniques of dry farming. These techniques did not have the desired impact since the improvements brought about were marginal and the risks were still high. However, during the last eight years, scientists of the Dry Land Farming Research Project of the Indian Council of Agricultural Research had been able to develop integrated techniques of soil and water conservation, short duration and drought-avoiding crop varieties and methods for better plant protection and plant nutrition. These was now being tested in pilot development blocks.

In spite of these efforts, it was clear that there was a need for larger and more intensive inter-disciplinary attack on the complex problems of semi-arid and rainfed agriculture, he added. It was, therefore, an act of vision on the part of FAO, UNDP, World Bank and other Members of the Consultative Group on International Agricultural Research that they decided in 1972 to establish this Institute at Hyderabad. The results achieved by the scientists of this Institute within a span of seven years demonstrated the power of science to find solutions to complex problems. ICRISAT is an example of the value of international and inter-disciplinary collaboration in agricultural science.

The crops chosen for investigation such as *Jowar*, *bajra*, groundnut, gram and pigeon pea or *arhar* are important both to the economy of the country and the nutrition of the population. Dry farming areas contributed over 50 percent of food production and over 75 percent of the production of cotton, groundnut and pulses. It was of interest that although these crops now occupied such an important place in Indian agriculture, they were all not native to India; they had come from other continents, and particularly from Africa. Thus, agriculturists had from time immemorial never recognised political and geographical boundaries. Man has domesticated and used all plants which are of value to him irrespective of their place of origin. He was glad to note that scientists had emulated this example and have come together from different parts of the world and established a working partnership at this Centre. The Prime Minister observed that Mahatma Gandhi advised the nation to keep her windows and doors open, so that fresh air and new ideas may come from all sides. The work of ICRISAT exemplified the wisdom underlying this advice.

The Prime Minister held that while India was making progress in improving the production of cereals like wheat and rice, she has not been able to make similar progress in increasing the production of pulses and oilseeds. It was therefore, necessary to step up the pace of progress in increasing the production of groundnut, gram and *arhar* crops on which ICRISAT was doing research. The Agriculture Ministry had been working on a strategy for popularising improved technological packages in major pulses and oilseeds through a National

Minimum Yield Guarantee Programme in these crops. The aim is to achieve growth with stability and insulate farmers from risks beyond human control. In this context, he was happy to learn that the ICRISAT Board had set up a Special Committee to deal with problems of technology transfer. The Indian Council of Agricultural Research was setting up a National Research Centre for Groundnut at Junagadh in Gujarat State. He hoped this Centre and ICRISAT could together develop high-yielding varieties of groundnut soon.

The Prime Minister continued that the mandate covers the semiarid areas of not only Asia but also Africa and Latin America and added that all these countries had farming systems which were several thousand years old. He cautioned that while modernising these systems, it should be remembered that not all the earlier practices had to be discarded. Some of them were particularly suited to local climatic and soil conditions. Therefore, instead of discarding such practices, it was important that they were improved in such a manner that the retention of moisture and growth of seedlings could be promoted.

Nor should modernisation of agriculture automatically imply mechanisation, he cautioned.

Narrating some of the steps recently taken in India to promote agricultural growth with stability of production in un-irrigated areas, the Prime Minister held that first of all, the efforts in the area of irrigation and particularly minor irrigation had been expanded. Liberal subsidies for ground water exploitation both through individual and community tubewells, and for water harvesting through individual and community farm ponds had been been liberalised. Farmers owning upto 4 hectares had been made eligible for subsidy for ground water utilisation. Secondly, a National Programme for the construction of rural godowns had been introduced to store and market farm produce. Farmers in the dry farming regions of India were poorer than those living in irrigated areas. Consequently, they had little capacity to hold on to farm produce after harvest. They tended to sell immediately after harvest, grains like *jowar*, *bajra* and pulses, at a low price, even lower than the support price announced by Government. It was hoped the National Grid of Rural Grain Storages, which were now being promoted, would help to insulate poor farmers from exploitation and from distress sales. Producer-oriented marketing was the key to stimulating scientific agriculture, he remakred.

Thirdly, a National Programme of Training Rural Youth for Self-employment in various sectors of agriculture and agro-industries has been started this year. Under this programme it was proposed to impart relevant skills to at least 200,000 rural boys and girls each year through the technique of "learning by doing". ICRISAT, could also lend a helping hand to this programme. Finally, through various programmes like the Small Farmers' Development Agency, Drought Prone Area Programme, Desert Area Development Programme and Integrated Rural Development Programme, the Government had introduced a variety of services to farmers. He was confident that, if economically viable technological packages became available, Indian farmers will convert unirrigated areas into productive farming ones.

The Prime Minister said that the year 1972 when the Institute was established, was characterised by abnormal monsoon behaviour and drought. This year again, when the ICRISAT Centre was being inaugurated, the behaviour of south-west monsoon had been abnormal. Therefore, the scientists had a wonderful opportunity to assess critically during this season the impact of their research.

Referring to floods, drought, cyclones and hail-storms that caused untold hardship to people as well as damage to crop and animal husbandry, he disclosed that the Government had streamlined procedures for disaster preparedness and introduced a three-pronged strategy to achieve stability of production at the national level. The major components of this strategy were : (i) introduction of crop life-saving techniques, including water conservation and recylcing; (ii) introduction of alternative crops based on contingency plans to suit different weather conditions; and (iii) the initiation of compensatory production programmes in irrigated areas and in non-traditional seasons.

The Prime Minister opined that one of the advantages of tropical and sub-tropical agriculture, was that due to the abundance of sunlight throughout the year, several crops could be grown. Scientists should help to perfect the crop yield stabilisation strategy. He assured them that as soon as they developed technologies which were economically stable and rewarding, the Government will take steps to pass on the benefits to the farmers through appropriate packages of services and public policies.

He was glad to note that this occasion was chosen for organising an International Symposium on "The Development and Transfer of Technology for Rainfed Agriculture". Exchange of ideas among scientists from different countries should lead to fruitful results, he hoped.

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economic and commercial news

News Highlights

Indian Firms Secure More Contracts

An Indian firm has recently secured the award of West Bank Trunk Sewer in the Baghdad city. This project is valued at Rs. 120 million. Another company has also been awarded the contract valued at Rs. 60 million for building the Daqooq Chau Bridge. With the award of these two contracts, the value of projects secured by India in 1979 upto now stands at Rs. 1,635 million.

India Bags High Value Export Orders

Seven Indian export promotion councils participated in the General Food and Beverages Exnibition held recently in Koeln (Federal Republic of Germany). The exhibition which was one of the biggest of its kind in Europe, enabled the Indian participants to book on the spot orders worth Rs. 4 million and another Rs. 4.6 million of orders are likely to materialise in the near future.

Promoting Indo-Bulgarian Cooperation

In a recently concluded second session of the Indo-Bulgarian Joint Business

(Contd. on page 2)

Export Performance and Potential

Promoting Economic Cooperation between India and Nepal

A ten-member delegation from Nepal, headed by Mr. D. R. Koirala, Secretary, Ministry of Commerce and Industries, Government of Nepal, held discussions recently with the Indian delegation led by Mr. V. Krishnamurthy, Secretary, Union Department of Heavy Industry, for reviewing the progress of implementation of Indo-Nepal industrial projects covered in the Memorandum of Understanding between the two Governments signed on September 26, 1978 at Kathmandu. Detailed discussions were held with the project implementing agencies and the delegation visited industrial projects including the BHEL complex at Hardwar. Mr. Koirala called on Mr. Brahmananda Reddy, Union Minister of Industry, and Mr. T. A. Pai, Union Minister for Railways.

Mr. Koirala expressed satisfaction at the progress of implementation and referred to the substatial progress effected since September 1978 relating to the completion of the detailed project report for the cement plant to be set up in Nepal as a joint venture, the reports of expert teams of railway linkages, development of small scale, village, khadi and rural industries, the survey of western/far western region and completion of detailed project report by HMT (International) on the Polytechnic, the Regional Training Institute and the Common Facilities Centre to be set up in Nepal.

The cement plan would be set up as a joint venture between the two Governments at Lakashmipur in Nepal and will have a capacity of 3,000 tonnes per day, of which help in the form of clinker would be for grinding units to

Council in Sofia, it has been urged that the businessmen of both the countries should explore the possibilities for economic cooperation and increased trade in the fields of chemicals, medicines and pharmaceuticals, electronics, leather goods, transport road building machinery, jute goods, textiles and tea, coffee, tobacco and spices. It was also agreed to study the possibility of technology transfer and joint ventures in third countries.

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be set up in North Bihar. The 47 kms long rail link for the Project would connect the Indian rail-head at Jayanagar on the North Eastern Railway.

Arrangements were made for Agreements to be concluded shortly for implementing the projects for setting up Polytechnic, Regional Training Institute and Common Facilities Centre by HMT (International). These are being set up in Nepal under the grant-in-aid programme by the Government of India to provide industrial development.

The Government of India has also extended a Rs. 35 million credit for procurement of machinery and plant to develop small scale, cottage and rural industries in Nepal.

It may be recalled that the new dimension was introduced in the Indo-Nepal industrial cooperation with the proposal to set up industrial projects and assist in development of industries in Nepal. The projects were identified after a detailed study undertaken by high level technical delegation from India led by the Union Minister of Industry in September 1978.

It may be mentioned that following the signing of the Treaties and the Agreement to Control Unauthorised Trade with Nepal in March, 1978, the Governments of India and Nepal had set up an Inter-Governmental Committee, headed by the Commerce Secretaries of the two countries to review matters concerning trade, transit and unauthorised trade. The Committee meets every six months alternatively in Kathmandu and New Delhi. The last review took place in Kathmandu in November, 1978. The discussions in Delhi will be held under the aegis of the Inter-Governmental Committee.

These regular bilateral consultations provide an effective forum for discussing comprehensively the implementation of the Treaties and Agreement, thus paving the way for their smooth functioning.

Notable Step-up in India's Exports

India's exports including re-exports have edged forward during the first four months of the current financial year. They have recorded a hike of 20.94 percent during April-July, 1979 as compared to corresponding period last year. They are provisionally estimated at Rs. 19761.50 million as compared to Rs. 16340.60 million during April-July, 1978.

During the same period, there was an increase of 21.60 percent in imports which are provisionally estimated at Rs. 23271.20 million as compared to Rs. 19138.20 million during April-July, 1978.

In July, 1979, the exports including re-exports are provisionally estimated at Rs. 3915.40 million which marked an increase of 1.47 percent as compared to Rs. 3858.60 million recored in July, 1978. The imports during July, 1979 are provisionally estimated at Rs. 5111.30 million as compared to Rs. 4902.80 million in July, 1978, thereby marking an increase of 4.25 percent.

Quota Distribution Policy for Garment Exports

Keeping in view the basic objectives of maximum utilisation of textile quotas, long-term development and stability of exports and reasonable unit value realisation, the quota distribution policy for the year 1980 for exports of garments to quota countries, has been finalised. It has been decided that the quota year should be divided into three periods viz., January-April, May-August, September-December to synchronise with the seasonal nature of the garments trade. The annual quota is expected to be divided in the ratio of 50:35:15 among the three periods, although the actual percentages may have to undergo changes from time to time in the light of the demand trend.

It has been decided that 40 percent of the quota should be allocated on the basis of past performance to impart the desired stability to the garments trade. Thirty percent of the quota could be allocated on first-come-first-served contract reservation basis and 30 percent on first-come -first-served readygoods basis. This would ensure adequate opportunities for all sections of the trade including the new entrants. For both past performance and first-come-first-served basis, there would be two sets of floor prices, one relating to higher value items, covering 20 percent allocation and the other basic floor price for items covering the remaining 80 percent of the allocation. The floor prices will be determined by the Textile Commissioner. In each category higher floor price covering 20 percent of the allocation has been stipulated keeping in view the need for diversification for production and export to higher value items. Wherever the quotas for cotton, woollen and man-made items are combined, it has been decided to reserve portion of such of the quotas for woollen garments and manmade garments as well.

In keeping with the Government policy for providing encouragement to the handlooms, the quota policy provides that where handloom and millmade items are clubbed together for allocation, the ratio of handloom and others in cases of USA will be 2:1, whereas it will be 1:1 for other areas. These ratios would, however, need to be modified, if necessary, depending upon demand trend.

With a view to preventing malpractices, the regulatory visions have been continued in the present quota policy. Shipment against quota allocation on readygoods basis will have to be effected within a period of 10 days from the date of quota endorsement. Appropriate performance bond as well as earnest money will have to be deposited by the exporters, and if the utilisation within the validity period is less than 90 percent, the full amount of the performance bond/security deposit will be forfeited, except in case of force majeure. If the non-utilisation of the quota is in excess of 25 per cent of allotment, Government may consider, except in conditions of force majeure, debarment of shippers from further quota allotment.

Certain items of garments have not moved well in the recent past. It is necessary that special efforts are made to improve the utilisation in these categories. Accordingly, it has been decided that special relaxation will be granted for these items by dispensing with the various requirements of performance bond, etc. to the extent possible. Such items will be identified and a careful watch will be kept on the utilisation.

Provisions have also been made to provide encouragement to the State Corporations by way of special allocation.

The concept of past performance which is being introduced is expected to impart the desired stability in the garments trade. Past performance will be judged for each country-category combination on the basis of average exports for three years beginning with 1976 and, if the exporter so wishes, also including therein the performance in the first six months of 1979.

Special encouragement has also been provided to the manufacturer-exporter. It is stipulated that the manufacturer-exporter will get an additional 20 percent allocation over and above his past performance entitlements.

Allocation as per the above quota distribution policy is expected to start quickly so as to facilitate the despatch of goods at the earliest. A committee under the Textile commissioner will review the quota utilisation at least once a month and Textile Commissioner will have a continuous supervision over details regarding quota allocation.

Indo-Kenyan Cooperation

The Star Textiles of Bombay and the Directorate of Training, Kenyan Ministry of Labour have recently entered into formal agreement for the setting up of Ksh. 45 million textile training unit at Nairobi, of which the latter would supply machinery equipment and technical services worth about Ksh 30 million. The project is being financed by the Dutch Government. Two officers of the Directorate are already in India for training in allied textile industry with scholarship provided by the Government of India.

A three-member Kenyan delegation, who were on a visit to India to study development of man power and training in the field of small scale industries

returned, highly impressed on what they had seen during their visit. They were preparing a report which was expected to be ready soon. Another 4-man recruitment team who was in India to recruit teachers also came back after recruiting 52 teachers.

Expanding Indo-Brazilian Trade

The Brazilian Trading Organisation (COBEC) and the State Trading Corporation of India (STC) have entered into an agreement to promote mutual cooperation and develop trade between the two countries on stable and long-term basis. They have identified several areas of cooperation to expand the two-way trade.

The detailed plan of action will be drawn up later. It is likely to include leather goods and footwear, finished leather garments, printing white paper, edible oils and so on. The possibility of using the ware-housing facilities of the Brazilian Organisation by the STC will also be explored.

The two organisations will also undertake joint market studies on items of mutual interest. Possibilities of promoting mutual use of consultancy services for undertaking third country projects will also be explored.

Indian Films Attract Foreign Buyers

Indian low-cost art films which had not travelled beyond shores of country have reportedly begun attracting attention of foreign buyers.

Several deals for these have been negotiated by Chairman of Film Finance Corporation Mr. Jagdish Parikh, who was recently in Moscow in Indian delegation to Moscow film fastival. Following these negotiations, Poland and Hungary have concluded agreements with the Corporation under which they would sell India three films each per year in exchange for ten art films. Similar offers have also been made by Czechoslovakia and Bulgaria who would conclude formal agreements later.

African countries like Malagasy, Mauritius Reunione and Seychelles have also concluded agreements with Corporation for buying Indian art films and TV films. While Malagasy has agreed to buy forty films per year. Mauritius and Reunione will buy twenty films each and Seychelles five films.

A market has also been generated for Indian art and TV films at Moscow festival. In Latin American countries negotiations were under way for selling some Indian films to Columbia. Mauritius has also agreed to buy from Corporation about one hundred television films per year

STC Pushes Up Leather Exports

In view of the downward trend in prices in the world leather market, the State Trading corporation (STC) has launched a vigorous drive to boost its exports of leather and leather ware. For 1979-80, STC has fixed a target of Rs. 1,420 million for the export of leather ware, about 40 percent of the all India target of Rs. 3,600 million.

As part of its export strategy, STC is promoting tie-up arrangements with foreign buyers. Negotiations are under way with big buyers in the USA and Hong Kong. The production collaboration proposals, submitted by the foreign manufacturers are also being examined by STC.

Indian Shipping Lines to Participate in Overseas Venture

The three major Indian shipping lines-Shipping Corporation of India, Scindias and India Steamship Company—have reportedly entered into an agreement with the Inter-Lighter Bhudepest, a 65 million rouble East European shipping venture.

The Inter-Lighter is a joint venture of four Socialist Bloc countires, namely, the Soviet Union, Bulgaria, Hungary and Cechoslovakia and has been established to cater to the trade between the industrial centres on the river Danube and the ports of West Asia and the Indian sub-continent.

Under the agreement, Indian lines have been granted a 50 percent share in the carriage of cargo moving between ports of four Socialist Bloc countries and Indian ports.

International Exhibition of Electronics in Italy

According to a press release by the Italian Embassy, Commercial Office, New Delhi, the next edition of "INTEL"—International Exhibition of Electrotechnics and Electronics is to be held in Pavilions Nos. 7-13 and 14 of the Milan Fair Complex at Milan from 9th to 13th February 1980.

The Exhibition is organized every year jointly by the National Association of Electrotechnical and Electronics Industries (ANIE) and the National Federation of wholesalers and distributros of Electric Materials (FNGDME) of Italy.

The "INTEL—'79" which was acclaimed to be a great success, was held this year on an area of 21,600 sq. metres and 527 exhibitiors were present in it with their wares. The 23 foreign countries represented in the Exhibition were : Austria, Belgium, Canada, Czecoslovakia, Denmark, Finland, France, West Germany, East Germany, Great Britain, Japan, Yugoslavia, Luxemberg, Malta, Norway, Holland, Poland, Rumania, Spain, United

States of America, Sweeden, Switzerland and Hungary.

Encouraged by the brilliant results achieved by the Exhibition and the ever increasing response of the concerned industries, its next edition will include equipment for industrial automation and for process control, professional electrics and electronics components.

Further details on the Exhibition can be had by writing directly to its organizers at the following address:

Associazione Intel, Via Luciano Manara, 1, 20122 Milano (Italy). Telephones (02) 790912/799064/799066. Telex 321616 ANIE/INTEL.

Norwegian Consumer Fair

The Norges Vermesse, the Norwegian Fair Organisation is holding the Norwegian Consumer Fair at Oslo from October 12 to 21, 1979. This is a specialised consumer fair where the display would cover a vast range of consumer items and goods and services in the fields of house and home, garden, hobbies, foods, gifts, toys, photography, sports, bathroom and kitchen equipments, dairy products, tools, clothes, education, banking etc.

The fair would be attended by wholesale distributiors and retailers of the above items. According to the Indian Embassy in Norway, this would be the cheapest way of exposing Indian consumer products to the Norwegian buyers/consumers.

For further details please contact the Embassy of India, Skovveien, 12, and Floor, Oslo-2, Norway.

International Cooperation in Agricultural Banking

Under an agreement signed in New Delhi recently, the Food and Agriculture Organisation (FAO) is to assist India in setting up a Centre for international Cooperation and training in agricultural banking at Pune.

Agreement for a Technical Cooperation Programme (TCP) was signed by Dr. A. S. Alwan, FAO, representative in India on behalf of F.A.O. and Mrs. Satyabhama, Joint Secretary Credit, Union Ministry of Agriculture and Irrigation.

The Centre would meet growing need for sharing information and development training facilities for personnel involved in agricultural banking in developing countries. It would also facilitate re-orientation of existing training institutions to step up and improve training of personnel for financing rural development in countries of Asian and African regions. Facilities would also be available for international training seminars on harnessing financial system of rural development at Centre.

The FAO would provide financial assistance of US $100,000 for the project. Government of India would provide necessary office accommodation for training staff and meet part of local cost of trainees from other countries.

India to Host IAEA Conference

At the invitation of the Union Department of Atomic Energy, the International Atomic Energy Agency (IAEA) will hold its 23rd regular session of the General Conference this year in New Delhi. The General Conference and its meetings will be held at the Vigyan Bhavan from December 4 to 11, 1979.

This is the fourth time since its inception in 1956 that the IAEA is holding its General Conference outside its headquarters in Vienna. The three previous Conferences outside Vienna were held in Tokyo in 1965 in Mexico 1972 and in Brazil in 1976.

It may be recalled that the International Atomic Energy Agency is an autonomous international organisation within the United Nations System. It convenes the General Conference once a year for a debete on the Agency's policy and programme, to consider for approval the budget and the annual report, to approve applications for membership, to elect new members to the Board of Governors and to replace those whose terms have expired.

The meeting of the present Board of Governors will precede the General Conference. The newly constituted Board of Governors will meet following the conclusion of the General Conference.

Exports of Chemical and Allied Products

Export of chemical and allied products have been growing over the years, as is clear from the table on next page.

Industrial Growth and Diversification

Heavy Industry Units Output Up

A total production valued at Rs. 862.90 million was achieved in July, 1979 by public sector units under the Union Department of Heavy Industry. This is 87 percent of the target of Rs. 997.10 million for the month and is Rs. 92.1 million more as compared to the production in July, 1978. Cumulatively, the production during April-July, 1979 has been Rs. 3181.60 million, 85 percent of the target of Rs. 3723 million and 16 percent higher than the production of Rs. 2749.30 million during the same period last year.

The total turnover of the Bharat Heavy Electricals Limited (BHEL)

(Continued on page 7)

Exports of Chemical and Allied Products

(Value in Rs. million)

Products	1976-77	1977-78	1978-79 *(estimated)*	*Tentative Target for* 1979-80
Rubber Manufactured Products	52.98	63 78	73.00	75
Footwear (Rubber and Canvas with rubber soled)	34.55	38.69	23.50	38.50
Automobile Tyres and Tubes	184.82	168.46	12.60	20.10
Paints, Varnishes and Allied Products	13.50	13.95	12.50	14.50
Glass and Glasswares	12.93	21.76	18.75	20.00
Plywood and Plywood Products incl. Wooden Furniture and Wood and Cork Manufactures	12.44	13.33	15.50	16.30
Ceramics and Allied Products	20.43	20. 82	15 00	16.70
Processed Minerals and Refractories	20.05	19.58	27.00	26.10
Paper and Paper Board	33.09	47.52	40.00	40.00
Paper Products	49.35	41.53	50.00	47.50
Books and Publications	33.01	54.18	45.00	55.00
Crushed Bones, Bone Grist and Fertilizers	91.57	15.76	78.00	96.00
Ossein, Glue and Gelatine	43.13	79.55	89.00	13.65
Miscellaneous Items*	23.01	34.10	38.00	34.50
TOTAL	1339.23	1579.39	1450	166.00

*Includes pyrotechnical articles, matches, dyeing and tanning extracts, detonators and explosives, graphite electrodes, coconut-shell, charcoal and activated carbon.

during July, 1979 was Rs. 486 million representing an increase of Rs. 47.70 million over July, 1978 and representing 88 percent of the target of Rs. 551.70 million. The cumulative production of BHEL during the four-month period stood at Rs. 1864 million, an overall increase of Rs. 343 million over the corresponding period last year.

The total production of Hindustan Machine Tools Limited (HMT) during July was Rs. 148.80 million. This is 98 percent of the target of Rs. 152.60 million and is **Rs. 10 million** higher than the production during July, 1978. Cumulatively, the production has been Rs. 505.8 million, 88 percent of the target of Rs. 575.20 million. This is Rs. 26.10 million higher than the production of Rs. 479.70 million during the same period last year.

Burn Standard Limited, Bharat Heavy Plate and Vessels Limited, Bharat Pumps and Compressors Limited and Triveni Structurals Limited achieved 100 percent or more than their respective targets in July, 1979. Jessop and Co. Limited, Richardson and Cruddas Limited and Scooters India Limited achieved 30 percent or above of their respective targets for the month.

Augmenting Production of Yarn

In order to increase the production of yarn, particularly, yarn required by the handloom sector, the following steps have been taken recently.

(i) Cotton textile mills have been permitted to operate for a period of six months the old spindles lying with them as a result of replacement by the new spindles under valid permissions issued by the Textile Commissioner. These mills desiring to utilise this facility should apply to the Textile Commissioner.

(ii) All existing waste spinning units have been allowed to spin cotton yarn upto 40s counts. All such units will have to apply to the Textile Commissioner or his Regional Officers.

Necessary notifications have been issued by the Textile Commissioner. The above facilities are being given on condition that the additionality of yarn will be subject to the hank yarn obligation. This is being done in order to ensure that these facilities lead to augmentation of availability of yarn for the handloom sector.

Regularisation of Power Looms

Government of India have extended the last date for receiving applications for regularisation of cotton and art silk power looms from September 30, 1979 to December 31, 1979. This has been done in order to facilitate and expedite action being taken by the State-level and other agencies for sending the necessary recommendations to the Textile Commissioner for regularisation of power looms.

Patch Prints Exempted from Duty

Patch prints (cinema films), which are intended exclusively for the entertainment of children or for educational purposes, have been exempted from payment of central excise duty.

In respect of full length films of the aforesaid two categories of films, an exemption exists already.

National Handloom EXPO

A National Handloom Expo is proposed to be held in Bangalore from October 5 to November 4, 1979.

The Expo, the first of its kind in South India, will be participated in by all the States who will display and sell to the consumers their choicest handloom fabrics in cotton, silk and woollen.

There will be a theme pavilion explaining the various progress achieved in the handloom sector. The theme sector will concentrate on the recent breakthrough achieved in the areas of technology and designs. Skilled craftsmen will give live demonstrations of the various techniques and processes of weaving, dyeing, printing, and block-making. The product displays at various pockets will project the variety and versatility of handloom textures and designs.

The theme sector will seek to dispel the commonly-held view that handlooms are coarse, shrinkprone and are of limited utility. It will project the image that handlooms are for the fastidious, are durable and capable of meeting all needs.

The theme sector, in its totality of effect, will present handlooms as a modern, commercially viable and forward-looking industry capable of holding its own against the mechanised textile industry.

Principal aspects of the handloom industry, the commitment of Government to revamp the handloom sector and assign it primacy of place in the current economic strategy, and the current economic strategy, achievements in this direction—all these will be conveyed through visuals, maps, graphics, scripts etc.

During the exhibition, there will be cultural programmes and fashion shows. The Expo is expected to receive many trade enquiries from various parts of the world and the respective States

will book orders which will be executed expeditiously.

Bharat Electronics Gets Appreciation

The Union Minister of State for Defence Mr. Jagbir Singh visited recently the factories of the Bharat Electronics Limited (BEL) at Ghaziabad which is a public sector undertaking under tne Ministry of Defence. He went round various shops in the factory and witnessed the production and assembling of a wide range of sophisticated electronic equipments.

The Minister praised the achievements of BEL, who have already emerged as the leader of the electronics Industry in the country.

The Ghaziabad Unit of BEL manufactures air defence radar systems and communication equipments. Apart from equiping the Defence Forces with the most advanced electronic equipments, BEL has also supplied high precision electronic equipments to the Police, Railways and the Posts and Telegraphs.

It has undertaken several turn-key projects for non-Defence organisations in the country and also has been exporting its products.

Loan Basis for Small Farmers Liberalised

Banks in India are hereafter to formulate model schemes and do advance planning to collect and process loan applications of small and marginal farmers with a definite calendar of operations. This is one of the important measures suggested by the Reserve Bank of India to lending banks for simplification and rationalisation of lending procedures in banks.

Another important steps is that "margin" money will not normally be stipulated for crop loans to small and marginal farmers upto Rs. 5,000. "Margin" money will not also be stipulated for term loans to small and marginal farmers, agricultural labourers and other specified categories of borrowers upto the cost of an economic unit or Rs. 5000, whichever is less, where a subsidy is available under special agricultural and rural development programmes like SFDA, DPAP and IRDP.

Under the liberalised measures, crop loans upto Rs. 1,000 will be sanctioned on the security of a DP note/loan agreement only. Further, crop loans of Rs. 1,001 upto Rs. 5,000 will be sanctioned on a hypothecation of crops.

Investment loans upto Rs. 5,000 will be sanctioned on hypothecation of assests when moveable assests are created out of loans.

In addition, crop loans over Rs. 5,000 and term loans over Rs. 5,000, where moveable assests are created out of loans, and for term loans of Rs. 1,000 and above where moveable assets are not created out of loans, the taking of a mortage of land as security is left to the discretion of the banks.

In States where legislation on the lines suggested by the Talwar Committee has been enacted, the mortgage of land will not be necessary. A simple declaration creating a charge on the land offered as security, will be considered sufficient.

The simplified procedures include adoption of model application forms by all commercial banks made available in all regional languages. The production of photographs for literate farmers will be waived. For loans to illiterate farmers, the banks will not only meet the cost but also make arrangements for taking the photographs. A register of loan applications, indicating the date of receipt and sanction or rejection of loans will also be maintained by bank branches.

IISCO's Amalgamation with SAIL

The Indian Iron and Steel Company (IISCO), till now a fully owned subsidiary of the Steel Authority of India Limited (SAIL), is now being merged formally with SAIL. The amalgamation of the Company with SAIL is being brought about under an Order issued by the Company Law Board Under Section 396 of the Companies Act.

It may be recalled that the shares in Indian Iron and Steel Company Limited held by all shareholders other than public financial institutions, nationalised banks, State Governments and Steel Authority of India Limited were taken over by the Government of India with effect from 17th July, 1976 through the Indian Iron and Steel Company (Acquisition of Shares) Act, 1976. Through this takeover, the Government of India/SAIL controlled 63.10 percent of the ordinary shares and 60.55 percent of the preference shares in the Company.

The public sector steel industry was re-organised in 1978 by means of the Public Sector Iron and Steel Companies (Re-structuring) and Misc. Provisions Act, 1978, in order to make it structurally more effective and integrated. It was the intention even then that the remaining shares in IISCO, held by the financial institutions, State Governments, etc. should also be taken over by the Central Government and transferred to SAIL so that, like the other public sector steel plants, IISCO could also become a Division of SAIL.

Accordingly 36.9 percent of the ordi-

nary shares and 39.45 percent of the preference shares of IISCO, which were in the possession of financial institutions, banks, general insurance companies and State Governments were purchased by the Central Government at the same rate of compensation as provided in the Act of 1976, viz., Rs. 4.70 for each equity share of the face value of Rs. 10 and Rs. 32.75 for each preference share of the face value of Rs. 100. These shares were transferred to SAIL in March, 1979 and thereby, ISSCO became a fully owned subsidiary of SAIL.

Improving Efficiency in Railways

An all-out effort is being made to improve efficiency in the working of Railways in different sectors. A close watch is kept at the highest level on the information received from different railways and prompt remedial action taken to remove the bottlenecks which contribute to low productivity.

In a recent communication addressed to the Chief Minister of West Bengal, the Union Railway Minister, Mr. T. A. Pai has requested him to take necessary steps so as to ensure proper functioning of the Railways.

In another letter to the Chief Minister of Bihar, the Railway Minister has pointed out that repeated failures in electric supply from the Bihar State Electricity Board in Dhanbad, Patherdih, Gomoh, Katras Garh, Kasunda, etc. has adversely affected the maintenance of steam locos in sheds, working of vaccum exhausters, output of sick lines, etc. Also, because of such frequent power breakdowns, wahs-outs could not given to a large number of locomotives and engines in steam loco sheds. It has also affected repair of engines and other rolling stock.

Wherever necessary, the Railway Minister is also addressing personal letters to General Managers of different Railways enquiring about shortfalls in performance and asking them to take immediate corrective action. He has recently drawn attention of the Central Railway in regard to steam engines and signal and tele-communication failures which have led to decline in punctuality in running of the trains. The Northeast Frontier Railway has been asked to take up at appropriate level the question of alarm chain pulling and vacuum disturbances. The Minister has also pointed out shortalls in loading of cement in Southern Railway and has called upon the South Central Railway to step up freight loading which has not been up to the mark.

Railway Pavilion at Trade Fair

The Railway Pavilion now being constructed in the Exhibition Ground for the India International Trade Fair (IITF) 1979 has been designed by the Research, Designs and Standards Organisation (RDSO), Lucknow.

The covered area of the Railway Pavilion is 30,000 sq. ft. in two blocks. The elastic curves on the facade and the mural work over it, is symbolic of movement in the form of running wheels depicting advancement in the field of railway technology.

The pavilion is a graceful structure covered with sloping curved roof.

The floor of the entire pavilion is at different levels to create the interest for the visitors so that the view of various objects and exhibits can be taken from different angles. Both the blocks have been connected by a lobby creating therein the atmosphere of a moving coach.

The land-scaping and other ancillary structures around the railway pavilion will consist of a pylon for displaying the Indian Railway monograms, neon-signs, fountains, railway flags, open-air theatres and restaurant.

The new development of rolling stock on Indian Railways will be displayed outside the pavilion on island platforms proposed for the purpose.

India Attends the World Radio Conference

India has drawn up a comprehensive set of proposals aimed at ensuring orderly and equitable exploitation of the radio spectrum resource by all countries in the coming decades.

These proposals will come up for consideration and approval at the World Adminstrative Radio Conference (WARC), 1979 which began in Geneva on September 24. The ten-week long Conference has been convened by the 114-year-old International Telecommunication Union (ITU), which is also the specialised agency of the United Nations since 1947 to deal with all telecommunication matters, harmonise the actions of its 154 member countries in regard to Radio spectrum usage.

The WARC-79 has been called to review and revise the International Radio Regulations. Telecommunication experts from more than 145 countries, including India, and from 35 international organisations will participate in the ten-week long deliberations.

India is represented by a team consisting of experts drawn from the Wireless Planning and Coordination Wing of the Ministry of Communications, P and T Department, All India Radio, Doordarshan, Department

of Space and Defence. It also has a representative each of the Ministry of External Affairs and the Indian Radio Astronomy Community.

The electromagnetic radio frequency spectrum is a limited, though invisible, natural resource. It has to support a large and growing variety of radio services. The different radio services and countries contend for access to the limited spectrum resources. This would lead to a chaotic situation unless there is a measure of international agreement and understanding on the usages of radio frequency.

ITU's International Radio Regulations adtopted in conferences where all members participate with equal rights provide the framework of discipline for the orderly functioning and growth of all radio services in the world, without unacceptable effects of mutual interference.

So far, the essence of the International Radio Regulatory Regime has been that all existing and notified radio services should be protected against interference from services brought into operation subsequently, in other words "first come first served". This has placed developed countries with their command of technology and resources at a considerable advantage vis--vis the developing countries, who have now begun to comprehend the benefits of radio. The developing countries are anxious to seek adoption of measures which would guarantee them their rightful share of these common resores and that they shall not be penalised by the "first come first served" principal. The conference is hence foreseen to become a turning point in the progress of radio communications.

The Indian proposals cover many items of vital concern to the present and future radio communication services in the country. Some of the major proposals are: expansion of short-wave broadcast bands by over 40 percent and the holding of a special conference for planning of specific assignment of frequencies to countries for international broadcasting service planning of frequency assignments and geostationary orbit locations for the fixed satellite service to ensure equitable use of geostationary orbit by all countries; sharing of UHF television bands by fixed and mobile services to permit considerable growth of these services in India and new or additional frequency allocations to amateur, experimental, fixed satellite, radio astronomy and other radio services. A number of amendments to various radio regulatory procedures to overcome difficulties experienced by India in the past.

The Delegation will endeavour to seek the approval of the Conference to the Indian Administrations proposals, which though motivated primarily by national interests, reflect in a large measure the vital concerns of the developing world as a whole, in the issues facing SARC-79.

Speedy Financial Facilities to Developing Countries Urged

While addressing the 5th ministerial session of the World Food Council, Ottawa, (Canada) recently, the Union Minister of Rural Reconstruction, Mr. Bhanu Pratap Singh said special responsibility lies on food-deficit countries to initiate and put through without delay, measures that will significantly reduce the dependence of developing countries on food imports which have steeply risen from 32 million tonnes annually in the 1960s to 77 million tonnes last year and may go to 145 million tonnes within the next 10 years.

The Minister pointed out that this would be possible only by aiming at self-reliance, self-sufficiency and by promoting bilateral or regional pooling and sharing of the experience of those developing countries who had tried to achieve higher agricultural production with conspicuous success. Only this and not increase of external investment or concessional financial facilities could be a lasting and genuine remedy to the ills of the developing world, he stressed. Referring to the Indian experience, the Minister expressed that they could not make fast enough advance on the food front so long as they looked for help from without. The wheel of fortune could turn in their favour only when they maximised their internal efforts.

Alluding to the population explosion, the Minister remarked that to the four billion of the world's present population, whom the farmers and fishermen were struggling to serve, 200,000 new faces were being added at lunch time everyday or full 72 million each year. It had been computed that while it took two million years for human number to reach one billion, it took hardly 100 years for the second billion, 30 years for the third and only 15 years for the fourth. If this trend persisted by this time, at the next century, there would be an increase of a billion each year. Between 1975 and 2000 alone, an increase of two billion in the world's population had been projected, of which the share of the developing countries would be 1.5 billion. As many as three billion heads of cattle, sheep and goats compete with human beings for the rapidly depleting resources.

While making a mention of depleting resources the Minister held that natural wealth of the world—its forests, its croplands, its grasslands, its oceans—on which different civilisations were founded and by which they were sustained had been grieviously eroded. The plough had lost to the stork and some seas had already been declared dead due to pollution. The per capita grain production had fallen and so was the yield of world fisheries. When the need was to produce 30 million additional tonnes of grain per year or at a 4 percent annual growth, the rate had been only 2.9 percent in the developing countries and 1.4 percent in Africa. According to the Food and Agriculture Organisation (FAO) estimate, the world grain harvest this year was 5 percent less than last year's and 3 percent below long-term production trends. The increase in price of oil had made the outlook even graver for the poorer countries.

The Minister remarked that the target of 0.7 percent of gross national product with the industrialised nations were expected to provide for development assistance to food and agriculture production as urged by the United Nations as early as in 1970, actual percentage had stood at 0.32. It was told that only Denmark, France, the Netherlands, Norway and Sweden were above or close to the target, whereas the others were well below it. The need for external resources for investment in food and agriculture, assessed at US Dollar 10 billion per year against the total figure of dollar 30.50 billion—had not been fully met, although even this estimate was conservative and was being fast outpaced by inflation the energy bill and other factors.

Referring to India, the Minister indicated that nearly 20 percent of the human race had been conscious of its own role and obligations towards increasing agricultural production, providing for food security for its millions and mitigating the ills of malnutrition. by a massive effort acknowledged as a feat unmatched by any large country, India nearly trebled its wheat production between 1967-79. The priority given by India to agriculture and development of rural economy would be evident from the fact that public sector outlay for agricultural and allied activities accounted for 40 percent of the total outlay for all sectors. This had helped in raising the tempo of agricultural development. Irrigation facilities were being extended by nearly 3 million hectares a year. The off-take of fertilizers which was 2.5 million tonnes 4 years ago was nowtmore than 5 million tonnes every year, in the last 2 years in particular there had been an absolute increase of consumption of 8,00,000 tonnes in terms of nutrients—which was a world record. Special programmes were launched for increasing production of pulses and oilseeds. More efforts would be made in the coming years for achieving sustained increase in food and other agricultural crops.

The Minister continued that as a result of the efforts, India's foodgrain production rose from 55 million tonnes in 1950-51 to 130.5 million tonnes this year. Production of cereals, the main source of dietary energy rose from less than 51 million tonnes to about 118 million tonnes during the same period. With more food production the people could be given food who could not aquire it in the market and the problems of unemployment and under-employment were solved.

On India's development front, the Minister revealed that she had initiated a three-prong strategy for promoting rural regeneration. First, a series of programmes were started to meet the minimum needs like drinking water, education, health care, communications and electrification. The second group of activity comprised social security measures designed to ensure the supply of adequate food to the poorest section of the rural people, particularly landless labourers. A Food for Work Programme was started which in terms of the quantity of food-grains involved was larger than the entire world food progrpmme. The third component of rural development strategy was the generation of more opportunities for gainful employment. Since agriculture and agro industries were the most important rural enterprises, the maximum attention had to be paid to developing economically viable and socially relevant agricultural technologies and to enabling all farmers, irrespective of the size of their noldings to benefit from new technology. Keeping these objectives in view, a National Programme of Training the Rural Youth for Self-employment was started.

The Minister disclosed that as a integral part of India's resolve to accelerate the pace of agrarian prosperity, it was engaged in the task of buidling a trong National Food Security System. This system consisted of building the ecological infrastructure essential for sustained agricultural advance; popularising technologies which could bring about growth with stability of production and the building of adequate green reserves. The safe storage of foodgrains and enlarging the area under irrigation to minimise the fluctuations in crop production associated with weather conditions was essential for achieving food security and for assuring stability of income to

the farmers. As such, India was developing a National Grid of Grain Storage, the Minister added.

The Minister informed that by this time, India had gained sufficient experience in agricultural production, storage and distribution and in facing management problems of continental dimensions in feeding its vast population by way of discharging the responsibility, under the plan of action approved by the FAO Council. India was ready to share this experience by extending cooperation, consultancy assistance and even aid on bilateral or regional basis to other developing countries in the field of: building up and operating food reserves; construction of storage space; training of extension/food management personnel setting up extension/storage centres formulation of projects; designing of overall food policies suited to particular nations requirements; save grain programmes; introduction of seeds of high yielding varieties and water management.

Drawing the attention of the Council for taking speedy action, the Minister laid emphasis on ringing into being concessional financial facilities to help developing countries with serious or chronic balance of payments difficulties to meet their food import bills in the event of domestic food shortages or rising prices of foodgrains in international markets. It would not be possible to set up such a facility unless the developed countries came forward with necessary additional funds to the international financing institutions who would be operating the new facility, he urged.

The Minister concluded by saying that it was a matter of serious concern to the Council that the UN Conference to negotiate a new International Grains Arrangement adjourned in February, 1979, without any date set for resumption. The aims and objectives of the new arrangements were: contributing to the stability of the international wheat market, safeguarding the interests of developing members by including special provisions to enable them to play their parts as full-fledged members; moderating extreme price fluctuations of wheat extreme price fluctuations of wheat and increasing the level of food aid. These were compelling and vital issues for all the participant countries should approach the outstanding issues in a spirit of accommodation and with a sense of urgency with a view to concluding the arrangement by July, 1980.

The Minister observed that it was the considered view of India that the International Grain Reserve should be of adequate quantity in conformity with the minimum safe level to serve as insurance against recurrent food crises; price range sat which additions will be made to the Reserve (when prices fall below a stipulated figure) and releases would be made to avert shortages (when prices rise beyond a stipulated figure) should be such as to enable developing members to satisfy their import requirements without affecting their economic development and at the same time be such as to assure an adequate return to the producers. The arrangement should contain special provisions for enabling developing nations to create and operate national reserves in the form of: exemptions in certain contingencies from obligations under the Arrangement; a stock financing fund to create the infrastructure and other facilities necessary for acquiring, storing and distributing national reserve stocks and generally to discharge their obligations as full blooded members of the Grains Arrangement.

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economic and commercial news

News Highlights

Indian Tea for PDRY

A contract has been signed for the first time between the Tea Trading Corporation of India and the National Company for Foreign Trade, Aden, for the supply of 250 tonnes tea valued at US $ 62,500. This marks a break-through for the export of Indian tea to the People's Democratic Republic of Yemen (PDRY). The possibility of supplying a large quantity of meat and meat products to that country are also being explored.

India's Participation in Trade Fair at Plovdiv

India's participation in 35th International Trade Fair at Plovdiv (Bulgaria) recently has been a great success. Contracts for Rs. 12 million for handlooms have already been concluded and more business is expected to materialise. Fresh contracts are expected for leather manufactures, handicrafts and readymade garments.

Spike in India's Exports to Germany

India's exports to Germany at DM 7.6 million fared extremely well during

(Contd. on page 2)

Export Performance and Potential

India Bags More Iraqi Projects

India has now secured the 12th project in Iraq in the current year with the award of the West Bank Trunk Sewer in the Baghdad city to a New Delhi construction firm. This project is valued at Rs. 120 million.

Last month, another Indian construction firm, the Hindustan Construction Company Private Limited, was awarded the contract for building the Daqoeq Chai Bridge, valued at Rs 60 million.

With the award of these two contracts, the value of projects secured by India in 1979 upto now stands at Rs. 1635 million.

It may be recalled that the earlier ten projects secured this year are in various fields like construction of fly-overs, bridges, culverts, housing complexes, besides the prestigious Council of Ministers building.

In 1978, Indian firms had secured eleven projects in Iraq valued at Rs. 2000 million. Thus twenty three projects, valued at approximately Rs. 3600 million, are now being executed by Indian firms in Iraq.

Indo-Bulgarian Business Cooperation

The Second session of the Indo-Bulgarian Joint Business Council concluded on September 14, 1979 in Sofia. A high-powered Indian businessmen's delegation led by Mr. Hari Shankar Singhania, President of the Federation of Indian Chamber of Commerce and Industry, agreed with the high-powered Bulgarian delegation led by the President of Bulgarian Chamber of Commerce and Industry, Mr. Peako Penkov, that regular discussions between businessmen were most useful and would help in furthering the

the first half of 1979 as compared to DM 349.6 million during the corresponding period last year and thus recorded a growth rate of 42.2 percent. This is all the more significant when compared with performance of last year's exports which had dipped by 2.8 percent.

NBBC Starts Hospital Construction in Libya

The foundation stone of a hospital complex in Baniwalid in Libya to be built by the National Buildings Construction Corporation of India (NBBC) has since been laid. The hospital complex consists of a dispensary-cum-social security building. NBBC has already been working in Baniwalid for constructing houses for the past two years.

Upswing in Cashew Exports

Exports of cashew kernels during the first half of 1979 soared to 16,951 tonnes worth Rs. 468.9 million from 9312 tonnes valued at Rs. 308.5 million during the same period last year.

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objectives of diversification and increase in trade and economic relations between the two countries.

The agreed conclusions were embodied in a joint statement signed by the leaders of the two delegations. The Bulgarian Deputy Foreign Trade Minister, Mr. Vutev, urged the businessmen of the two countries to explore all possibilities for furthering trade and economic relations so as to reach the objectives laid down by the two Governments.

The two delegations agreed to the exchange of information and urged their businessmen to explore the possibilities for cooperation and increased trade in the fields of chemicals, medicines and pharmaceuticals, electronics, leather goods, transport road building machinery, jute goods, textiles and tea, coffee, tobacco and spices.

The delegation also agreed to study the possibilities and scope for transfer of technology on commercial terms and joint participation in joint ventures in third countries specially in the Middle-East.

The Indian Ambassador, Mr. S.H. Desai said the statement was significant because it showed that cooperation was possible between the two countries which had different economic and social systems.

India at Leather Exhibition in Paris

An International Leather Exhibition recently held in Paris is reported to have yielded order worth Rs. 70 million for the Indian participants.

The Leather Export Promotion Council, Madras bagged orders worth Rs. 30 million while the State Trading Corporation secured orders valued at Rs. 5.5 million.

Over 30 Indian leather and leather goods manufacturers participated in what was described as the biggest leather and leather goods exhibition in the world.

The Fair "Semain Du Cuir" is regarded as a trend setter in fashion for leather goods and leather garments for 1980. Suede is expected to be the most popular material for leather garments and dark colours will be in vogue.

Indian participation was under the auspices of the Leather Export Promotion Council, Madras and Export Promotion Council for Finished Leather and Leather Manufactures, Kanpur. In addition, STC and Tatas participated seperately.

Display of Indian Goods in Tunisia

According to the Engineering Export Promotion Council, the Indian Embassy in Tunisia is making arrangements to display traditional and non-traditional items in November, 1979. This display will coincide with the promotional campaign for Indian tea in Tunisia being organised by Tea Board of India, Cairo.

It has been indicated that among the engineering products, the following items are presently being imported from India : hand tools, screws and nuts, cycle parts, domestic appliances like electric iron, table fans, electric plugs and sewing machines, stove parts, stainless steel trays and utensils. These items have, therefore, been selected by Indian Embassy for display in the proposed exhibition.

engineering items, sports goods, leather goods, costume jewellery, textiles, handicrafts, photographs, cultural attractions and different regional dresses etc. also have place in this exhibition.

Interested parties may contact Indian Embassy, Tunisia for further details at the following address : Indian Embassy, 28 Rue Pera Delatre Mutuell, Ville Tunis, Tunisia.

Export Performance of an Indian Company

Addressing the annual general meeting recently, the Chairman of Motor Industries Company Limited (MICO) has stated that the company has been active on export front also and its exports touched a record level at Rs. 146 million and it hopes to maintain a steady increase in future. The company's balance of trade was again favourable. The value of exports outstripping expenditure in foreign exchange by Rs. 75 million.

Company's achievement in exporting quality products to many countries have earned awards for it. Since the bulk of its exports goes to Germany, the Indo-German Chamber of Commerce has given a special award to the company for promoting Indo-German trade relations.

Company's overall improved performance has been due to significant rise in the output of the country's diesel engine industry, both vehicular and stationary and consequent surge in demand for fuel injection equipment and other spare parts.

Technical Cooperation Programme Agreement

Under an agreement signed recently in New Delhi, the FAO is to assist India in setting up a Centre for International Cooperation and Training in Agricultural Banking at Pune.

The agreement for a technical cooperation programme (TCP) was signed by Dr. A. S. Alwan, FAO Representative in India on behalf of FAO and Mrs. Satyabhama, Joint Secretary (Credit), Ministry of Agriculture and Irrigation.

The Centre will meet the growing need for sharing information and developing training facilities for the personnel involved in agricultural banking in the developing countries. It will also facilitate re-orientation of existing training institutions to step up and improve training of personnel for financing rural development in the countries of the Asian and African regions. Facilities will be available for the international training seminars on harnessing financial system in support of rural development at the Centre.

As a first step towards setting up of the centre, a Mission consisting of an Indian expert on agricultural banking as the Chairman and an African banker and non-Indian Asian banker as members will be appointed by FAO to study the existing training facilities and to formulate the arrangements to be made by the proposed centre for training and conduct of seminars on agricultural banking and for designing and development of national system on the training in the countries of the Asian region. The Mission is expected to its work within four months.

FAO will provide a financial assistance of US$ 100,000 for the project. The Government of India will provide necessary office accommodation, training staff and meet part of the local cost of the trainees from other countries.

National Strategy for Engineering Exports

The Engineering Export Promotion Council (EEPC) has, in a recent paper on National Strategy for Engineering Exports, observed that the country's future export of engineering products would be greatly influenced by certain external factors like emergence of China as a reckoning force, protectionist tendencies in the world, introduction of multilateral trade negotiations and possible erosion of GSP benefits and political changes in some of the West Asian and African countries and certain domestic factors such as availability of steel, power, communications service and port facilities.

It has been pointed out that at present about 86 percent of country's exports consists of few identified products and nearly 83 percent of the exports is accounted for by 39 countries in the world. Instead of spreading too thin, the Council suggests that it would be in national interest to concentrate on selected products and markets.

Nearly 200 top manufacturers-exporter account for roughly 66 percent of the total exports. It would be in the interest of the country if larger number of manufacturers, particularly from the medium and small scale sectors, are encouraged to go in for exports.

It has further been suggested that the main objectives of the exports strategy should be to secure rapid increase in exports without affecting domestic availability to and to ensure that the growth of export production leads to improvement in quality, access to modern technology and increased employment through greater

participation by large number of manufacturers, especially in the small scale sector.

The Council says that substantial increase in exports can be effected only if a good image for the country is built up. One of the essentials for this is timely execution of contracts to the fullest satisfaction of the buyers. This is possible only if exports are treated as national effort and not only as a concern of individual exporter or one department of the Government. Timely execution of the contracts can be made possible if all the inputs including basic raw materials, power, internal transport, finances and shipping and guaranteed.

It further points out that capital goods and turnkey projects are going to play a significant role in India's exports during the next decade. Nearly 50 percent of the exports will have to be of capital goods and projects, if the minimum target of Rs. 24,000 million is to be achieved by 1990-91. A high powered project committee in the Ministry of Commerce should ensure that all the inputs needed for timely execution of large value contracts are made available and that execution of contracts is regularly monitored by this committee.

With a view to ensuring greater participation of top 200 manufacturers-exporters in the country, they should be encouraged to draw a corporate programmes for next 10 years and identify the inputs needed.

In order to encourage other manufacturers particularly in the small scale sector, whose contribution so far has not been significant, necessary market lintelligence should be provided by the Council and they should be encouraged to participate in delegations, study teams, sales teams and trade fairs and exhibitions.

Furthermore, since some of the importing countries need credit facility on the lines offered by other countries, the Industrial Development Bank of India should offer similar credits Besides, in addition to the items already exported, possiblities for export of new items, for which sufficient production base is available in the country, should be explored on a continuous basis

There is also an urgent need for coordinated export effort. This should be done at the level of Ministry of Commerce. All the export promotion organisations and agencies should be assigned duties and responsibilities and must be made to account for responsibilities entursted to them. Participation in trade fairs and exhibitions should be on a planned basis and after making thorough study of the propsects of identified items. Financing by the Government should be on a uniform basis to all the agencies involved in the effort.

The Council also suggests that since the present system of financial assistance to it under code of grants-in-aid is very restrictive and not conducive to a bold promotional drive, it needs to be revised so as to give greater freedom to the Council to organise promotional activities. To sustain even the minimum level of export of Rs. 24,000 million by 1990-91, capacities of growth potential items will have to be substantially increased. In addition to this, sufficiently large number of technical and managerial manpower will have to be trained. Expansion and modernisation will require huge investments for which financial institutes will have to make funds available at reasonable rates

Plastic and Linoleum Exports Look Up

The overall exports of platics and linoleums during the first quarter of the current financial year recorded increase at Rs. 66.52 million as against Rs. 40.50 million during the corresponding period last year.

The following items showed improvement during April-June, 1979, as against their performance during the corresponding period last year : fountain pens, sign pens and fibre pens etc. (from Rs. 2.97 million to Rs. 5.65 million), glass fibre re-inforced polyesters and manufactures including helmets and spare parts like strapes, braided, cord etc. (from Rs. 0.22 million to Rs. 2.52 million), laminates (phenolic melamine) (from Rs. 2.18 million to Rs. 7.59 million), plastic electrical accessories (from Rs. 1.46 million to Rs. 6.95 million), plastic imitation jewellery (from Rs. 0.06 million to Rs. 1.91 million), handbags, purses and other PVC fabricated goods (from Rs. 0.15 million to Rs. 2.42 million), plastic moulded and extruded goods (from Rs. 9.37 million to Rs. 16.93 million), ploythene bag, films and sheets (from Rs. 0.23 million to Rs. 0.62 million), high density polythylene woven sacks (from Rs. 0.13 million to Rs. 0.38 million), spectacle frames (from Rs. 3.19 million to Rs. 5.45 million) and plastic brushes (from Rs. 0.07 million to Rs. 0.13 million).

Among the linoleums products, the felt-based linoleums shared the rising trend by improving from Rs. 0.14 million to Rs. 3.82 million.

Indrail Tickets Net in Foreign Exchange

Indian Railways earned over Rs. 2.2 million in foreign exchange from the

sale of Indrail Pass tickets during the first five months of the current financial year.

During the period from April to August 1979, in all 5203 Indrail Pass' tickets were sold by the Zonal Railways to foreigners and non-resident Indians.

During the month of August 1,267 ,Indrail Pass' tickets were sold fetching for the Railways about Rs. 560,000 in foreign exchange.

Introduced on June 1, 1977, the Indrail Pass tickets have so far earned for the Railways Rs. 13 million in foreign exchange. The scheme was introduced to promote foreign tourism in the country.

The 'Indrail Pass' tickets are valid for 7, 15, 21, 30, 60 and 90 days during which period, the ticket holder can travel in any train and go to any station in the country any number of times.

Specific quotas have been set apart in selected important trains for Indrail Pass ticket holders. Tourist guides have been provided at major rail headquarters to render all possible assistance to foreign tourists in drawing up their itineraries and arranging reservations.

International Jewellery and Watch Exhibition

An International Jewellery and Watch Exhibition (Jeweltime '79) will be held at World Trade Centre, Singapore from December 12—16, 1979. This will be the first international jewellery and watches exhibition to be held in Singapore. This fair has been sponsored by the Diamond Importers Association of Singapore. This trade event will feature the widest range of jewellery and watches and clocks, such as diamonds, rubies, pearls, jades, sapphiers, opals, topaz, gold, silver, platinum, jewellery, imitation jewellery, emeralds, ivory, gems, watches, clocks and production tools.

Jeweltime'79 is aimed primarily at providing manufacturers the marketing platform to penetrate the first growth areas in ASEAN and allow the more enterprising the opportunity to consider ASEAN as potential investment centres. It will provide manufacturers and distributors the opportunity to introduce their latest jewellery and time pieces and to re-inforce their market status. This fair will also help establish new business-contracts, promote and renew existing ones as well as generate sales volumes.

The fair is expected to bring in exhibitors from Australia, Belgium, India, Israel, Italy, Hong Kong, Holland, Japan, Switzerland, Thailand, United States and Britain and buyers principally from ASEAN countries.

There has been steading rise in the jewellery and watches, trade in Singapore. In 1977 Singapore imported jewellery items worth $ 95.97 million and clock and watches worth $ 321.43 million. With the continuing high growth in ASEAN Singapore is poised to attain more importance as a major distribution centre for jewellery and watches.

As regard space, two options have been offered—space only : $ 290 per sq., mtrs. (if one wants to build one's own stand on space provided by the fair authorities) ; and space and stand : $ 390 per sq. mtr. (stand including partitions, lightings sign boards and carpets).

For further details the intending participants may contact : The Managing Director, Jeweltime'79, Scope International Pvt. Ltd., Suite 501, Eng. Cheong Tower, North Bridge Road, Singapore-7.

Changing Pattern of World Trade

The 1979 edition of the IMF's (International Monetary Fund) Direction of Trade Yearbook, published recently, depicts important changes in the value and structure of trade among the world's trading areas in 1972-1978. The effects of these shifts on the trade balances including the cost of freight and insurance payments on imports) of the major trading areas reveal, for example, a substantial decline in the industrial countries' trade deficit with their trading partners, a smaller decline in the trade deficit of other European countries (Finland, Greece, Iceland, Ireland, Malta, Portugal, Romania, Spain, Turkey and Yugoslavia), a pronounced drop ($21.5 billion) in the surplus of oil-exporting countries and a sharp rise in the deficit ($17.4 billion) of other developing countries with the rest of the world in 1978. Between 1972 and 1978 the aggregate trade deficits of the developing countries of the Western Hemisphere, Asia and Africa increased by $10.5 billion, $8.8 billion and $5.8 billion, respectively. The largest increase ($10.7 billion) was that of the developing countries of the Middle East (excluding oil exporters), whose trade deficit with industrial countries rose from $2.8 billion in 1972 to $13.5 billion in 1978.

Trade Balances of Major Trade Areas with the Rest of the World

(Billion US Dollars)

	1972	1973	1974	1975	1976	1977	1978
Industrial Countries	- 5.2	-10.0	-40.8	- 8.3	-34.5	-42.0	-22.9
Other Europe	- 8.1	-11.6	-22.8	-24.2	-23.0	-25.0	-22.2
Australia, New Zealand, South Africa	1.9	3.2	- 1.7	0.4	0.9	3.2	3.3
Oil Exporting Countries	10.9	19.2	81.8	54.5	66.7	58.8	37.5
Less Developed Countires	-11.3	-12.5	-33.0	-42.7	-28.2	-29.2	-47.2
Other Western Hemisphere	- 3.9	- 3.8	-13.6	-16.0	-12.1	- 9.0	-14.4
Other Middle East	- 2.8	- 4.3	- 6.6	- 9.3	- 8.7	-11.6	-13.5
Other Asia	- 3.9	- 4.2	-12.5	-13.5	- 5.4	- 5.6	-12.7
Other Africa	- 0.7	- 0.1	- 0.3	- 3.9	- 1.9	- 3.5	- 6.5

In the 1972-1978 period covered by the Yearbook, the industrial countries steadily improved their trade surpluses with other European countries and with non-oil exporting developing countries, accumulating total surpluses of $74.4 billion and $46.9 billion, respectively, in the seven-year period, including surpluses of $10.9 billion and $11. billion in 1978. In their trade with oil-exporting countries during 1972-1978, the industrial countries experienced annual trade deficits that rose from $10.9 billion in 1972 to a peak of $60.2 billion in 1974 and fell in the subsequent years to $40 billion, $50.5 billion, $50.7 billion and $36.7 billion.

In the seven years ending December 31, 1978 the oil-exporting countries accumulated total trade surpluses amounting to $329.4 billion, comprising surpluses (including the cost of freight and insurance payments on imports) of $207.6 billion, $25.5 billion, $98 billion, and $1.2 billion with the industrial countries, other European countries, developing countries and Austrialia, New Zealand and South Africa, respectively. The oil-exporting countries' trade surpluses with the developing countries in 1972-1978 were largely ($66.4 billion) with Western Hemisphere nations, whose trade deficits with the oil-exporting nations rose from $2.1 billion in 1972 to $13 billion in 1978, owing partly to the import of crude oil for processing and re-export by the region's refineries.

The Yearbook states that, during 1978, world exports increased by $161.4 billion, or by nearly 16 percent to a total of nearly $1.2 trillion. This was more than three times the 1972 value of world trade. While all areas of the world contributed to this increase —with the exception of the oil-exporting countries, whose exports fell by $3 billion to $141 billion—the major share ($135.3 billion) of the rise was contributed by the industrial countries.

The Yearbook also indicates that the non-oil exporting developing countries' share of total world exports fell in 1978 after rising in each of the two previous years. Although the developing countries' exports went up 13.3 percent to $203.2 billion in 1978, their imports jumped by 21.3 percent to $203.2 billion, raising their trade deficit by $17.4 billion to $47.2 billion in 1978. A major share of the increase in their deficit was attributable to their trade with industrial countries, with which they ran a trade deficit of $25.1 billion in 1978, compared with $10 billion in 1977. The balance of the developing countries' total trade deficit of $47.2 billion in 1978 was almost entirely with the oil-exporting countries.

Disciplining Diesel and Kerosene Consumption

The Government of India has advised State and Union Territoy adminis-rations to take immediate measures to regulate consumption and distribution of diesel and kerosene and deal sternly with hoarders and black-marketeers.

In a communication to Chief Secretaries of States and Union Territories, the Petroleum Secretary has particularly drawn attention to the alarming increase of 14 percent in high speed diesel consumption in the first five months of the current financial year, creating unforseen difficulties and making it absolutely necessary to discipline the off-take of HSD.

The latest communication to the States and Union Territories has reiterated that it may not be possible to supply petroleum products during the remaining part of the financial year at a level higher than 5 percent above the off-take in the corresponding period of the previous year.

In May this year, the then Petroleum Minister had written to Chief Ministers of States and Administrators of Union Territories that supplies of products to them were not likely to be more than 5 percent above the 1978-79 level because of restricted availability of crude and petroleum products in international market.

While States have been able to keep the consumption of kerosene within the prescribed limit, the high off-take of HSD during first half of 1979-80 has badly upset the oil industry supply plans.

Petroleum Secretary has assured that HSD supplies will not be allowed to go below the originally planned 5 percent growth level but, he has pointed out that to maintain supplies at that level will put a heavy burden on the Central Government to procure necessary additional supplies at short notice and at unsually high prices.

An equally heavy responsibility would, therefore, devolve on State Governments to ensure that consumption of HSD is effectively controlled and its distribution to various categories of consumers is effected according to priorities laid down from time to time.

It has been emphasised by the Petroleum Ministry that it is essential to take immediate measures to regulate the consumption and distribution of HSD and kerosene. The Ministry has also suggested certain steps to streamline the distribution of these products.

Regarding kerosene, it has been advised that the State Government may exercise proper control and supervision over the functioning of retailers who may, if necessary, be replaced by fair price shops. A specific number of consumers may be assigned to each retailer through ration cards or any other appropriate device.

The Centre has also indicated measures regarding controlled distribution of HSD consumed mainly by the agricultural and transport sectors. The States have been urged to give an overriding priority to the agricultural sector, particularly in view of the present drought conditions in certain parts of the country.

The States have been advised to consider fixing basic quotas for different categories of agricultural equipment such as irrigation pumps, tractors and motors. They have also been advised to issue quota cards which may be assigned to sepecific retail outlets in or near each Development Block for drawing supplies.

It has been emphasised that the agricultural quota of HSD should be issued only to genuine card holders and must not be diverted for transport or any other purpose on any account.

As for diesel driven transport vehicles, States have been advised to undertake a complete census of all such vehicles in each district and fix quota for them according to their nature and use. These vehicles may draw their supplies from a specified outlet so that proper control on HSD supplies can be exercised.

The Petroleum Ministry has also drawn attention to the alarming growth of long distance bus transport both in the public and private sectors and has said that in view of limited HSD supplies, long distance bus transport needs to be strongly discouraged. For the same reason long distance, haulage of goods by road also needs to be kept to the minimum.

States have once again been urged to come down heavily on hoarders and black-marketeers and take stern action against them, if necessary by invoking provisions of the Essential Commodities Act. They have also been advised to make full use of State and district level oil coordinators for organising planned distribution of petroleum products.

Curbing Misuse of Iron and Steel

Misutilisation of iron and steel has been made punishable under the

Essential Commodities Act, 1955. This will now apply to misuse of iron and steel material, including pig iron, by buyers for purposes other than that specified at the time of booking orders.

A notification from the Ministry of Steel, Mines and Coal, dated September 3, 1979, states that Clause 7 of the Iron and Steel (Control) Order, 1956, shall now apply to all categories of iron and steel specified in the first schedule to the Iron and Steel Control Order. Purchasers of all categories of iron and steel mentioned in the first schedule of the Order will accordingly have to give, at the time of booking orders for supplies, a declaration to the producers specifying the end use. Any use not conforming to this declaration is punishable under the Essential Commodities Act of 1955.

The Clause 7, which provides for suspension and debarring of supplies, has been in force in respect of steel, since April last year. Besides this, criminal proceedings in terms of the Essential Commodities Act could also be initiated to check voilation of Clause 7. The Clause will now apply to all categories of iron and steel.

The Iron and Steel Controller and his regional officers have carried out 2,472 inspections since the revival, in stages, of Clause 7 of the Iron and Steel Control Order in April, 1978 till June this year, to ensure strict enforcement of restrictions regarding the end-use of steel. As a result of 836 inspections conducted in April-June this year, supplies to 114 units have been suspended. Chief Secretaries of all the States and Union Territories, who had earlier been asked to ensure proper utilisation of steel, have also taken steps, in coordination with the Central agencies, in this regard. Small Scale Industries Corporations have been reviewing their master lists for supplies to small units from time to time to weed out defaulting units.

Edible Oils Brought Under Storage Control Order

The Union Government has decided to bring imported edible oils within the stock limits as provided under the Pulses, Edible Oil Seeds and Edible Oils (Storage Control) Order, 1977. It takes away exemption granted for purposes of stock limit to the imported oil. This decision is aimed at dehoarding of stocks at all levels of all oils.

A notification to this effect has on September 21, 1979 was issued. The notification also provides that a State Government may fix a stock limit, if it considers it necessary, below the maximum limit fixed under the Order.

The Notification also removes the stock limits for mustard seeds, mustard oils at producers level. It also enlarges the definition of a producer to include a refiner. The bulk consumer has been defined to include an educational institution with hostel facilities, a hospital or a religious or charitable institution.

The notification runs as follows :

In exercise of the powers conferred by section 3 of the Essential Commodities Act, 1955 (10 of 1955), the Central Government hereby makes the following Order further to amend the Pulses, Edible Oilseeds and Edible Oils (Storage Control) Order, 1977, namely :—

(1) This Order may be called the Pulses, Edible Oilseeds and Edible Oils (Storage Control) Amendment Order, 1979

(2) It shall come into force on the date of its publication in the Official Gazette.

In clause 2 of the Pulses, Edible Oilseeds and Edible Oils (Storage Control) Order, 1977 (hereinafter referred to as the said Order :—

(i) for sub-clause (a) the following sub-clause shall be substituted, namely :

(a) "bulk consumer" means a hotel, a restaurant, a *halwai*, an educational institution with hostel facilities, a hospital, or a religious or charitable institution;

(ii) in sub-clause (j), for the words "or manufacturing", wherver they occur, the words "manufacturing or refining" shall be substituted.

In clause 4 of the said Order :

(i) in the third proviso to sub-clause (1), for the words "edible oil-seeds or mustard seeds the words "or edible oilseeds" shall be substituted.

(ii) in the Table thereunder :

(a) in the heading of column (2), for the words "edible oilseeds or mustard seeds", the words "or edible oilseeds" shall be substituted;

(b) for the heading of column (3), the following heading shall be substituted, namely :

"Quantity of finished stock of milled pulses or edible oils including refined oil";

(c) in item 2, in column (1) the words "other than mustard oil" shall be omitted;

(d) item 3 and the entires relating thereto shall be omitted;

(iii) for the last proviso, the following proviso shall be substituted, namely :

> "Provided also that nothing in this clause shall apply to a commission agent who does not retain any consignment of pulses or edible oilseeds received by him for a period exceeding fifteen days from the date of its receipt".

After clause 7A of the said Order, the following clause shall be inserted, namely :

"7B *Power to fix lower stock limits*. The State Government may, if it considers it necessary for just and sufficient reason, by notification in the Official Gazette, fix any stock limit within the maximum limits specified in clause 4, either generally or for any specified period, subject to such conditions as may be specified in the notification :

Provided that no notification under this clause shall be issued except with the previous approval of the Central Government.

Output in Public Units Marks Up

A Total production valued at Rs. 131.32 million was achieved in July, 1979 by public sector undertakings under the Union Department of Industrial Development This is 84.05 percent of the target, and 21.35 percent more than the production in July, 1978 and 22.31 percent higher than the production during the previous month.

Cumulatively, the production during the first four months of the current year (1979-80) was valued at Rs. 411.42 million, 69.14 percent of the target. This was 0.43 percent higher than the production of Rs. 409.65 million in the corresponding period last year.

The total production of the Cement Corporation of India Limited (CCI) during July, 1979 was Rs. 19.74 million, showing an increase of 94.53 percent over the production in July, 1978 and Rs. 0.74 million more than that of June, 1979. This year in July the Corporation achieved 77.51 percent of the target. The cumulative production of the CCI Limited during the first four months of the year (1979-80) stood at Rs. 68.51 million. This represents 69.65 percent of the target and is 72.65 percent higher than the production in the corresponding period last year.

The total production in both Hyderabad and Rupnarainpur units of the Hindustan Cables Limited during July, 1979 was Rs. 43.30 million, 84.83 percent of the target, and Rs. 13.29 million higher than that of June, 1979. This is 15.57 percent higher than the production during July, 1978.

The total turnover of both Kota and Palghat units of the Instrumentation Limited in July, 1971 was Rs. 121.10 million It crossed the target of Rs. 11.30 million by 7.11 percent and was Rs. 1.02 million more than that of June, 1979. This is 86.81 percent higher than the production in July, 1978.

The total production of the National Newsprint and Paper Mills Limited for the month of July, 1979 has been Rs. 11.62 million, 71.64 percent of the target and 62.16 percent higher than the production in July last year. In June, 1979 the total production was Rs 11.86 million. In physical terms, the production during the month was of 3,630 tonnes against the target of 5,067 tonnes and production of 2,653 tonnes in July 1978, whereas in June, 1978 the same was 3,709 tonnes against the target of 5,000 tonnes Cumulatively, the production during the first four months was of Rs. 46.46 million, 74.28 percent of the target and 6.84 percent higher than the production during the corresponding period last year

More New Companies Incorporated

Fortyseven private limited companies with a total authorised capital of Rs. 17,135,000; three public limited companies with a total authorised capital of Rs. 27,500.000 and one association (under section 25 of the Companies Act, 1956) with an authorised capital of Rs. 100,000 were incorporated in the Union Territory of Delhi during the month of July, 1979. No company was registered in the State of Haryana during the said month.

During the month, two private limited companies having an authorised capital of Rs. 2,000,000 and Rs. 500,000 shifted their registered offices from the States of West Bengal and Maharashtra respectively to the Union Territory of Delh. One private limited company having an authorised capital of Rs. 500,000 shifted its registered office from the Union Territory of Delhi to the State of Maharashtra.

Annual Plan for 1979-80

In the Annual Plan for 1979-80, over 40 percent of outlay which comes to about Rs. 124,600 million has been earmarked for rural development. Agriculture and allied sectors get an amount of Rs. 18,150 million. Sufficient funds have also been provided to promote irrigation and command area development.

Annual Plan document released recently says that as a result of employment strategy of current five year-plan, an additional employment of over five million persons was created last

year. This is expected to increase by 1 more million persons. An integrated rural development programme would be taken up this year in 300 more blocks. Under food for work programme, it was proposed to utilise 1.5 million tonnes of foodgrains to generate 600 million man-days of work. Additional employment would also be generated through additional irrigation facilities. Other development programmes are district industrial centres and expansion of village industries. Annual Plan gives considerable importance to revised minimum needs programme. Under this head States and Union territories would get over Rs. 5300 million. The programme include rural electrification and roads, elementary and adult education, heatlh, water supply and housing in villages, and environmental improvement of urban slums. On power generation, the document says that installed generation capacity would be increased by 2.8 million killowatts during current financial year. This would bring total generation capacity to nearly 32 million killowatts. As many as 25,000 new villages are expected to get electricity during the year. Over Rs. 5800 million have been earmarked for petroleum sector.

About Rs. 2900 million have been provided for village and small industries as compared to last year's outlay of about Rs. 2340 million. Large industries and minerals get over Rs. 25,000 million and nearly 70 percent of it has been earmarked for iron and steel, petroleum, fertilisers and coal. New allocations relate to certain critical areas like fertilisers and cement.

India's Food Processing Units Lauded

The International Labour Organisation (ILO) has commended India's efforts for setting up food processing units in small scale sector in a special report on food processing and drink industries in developing countries.

The ILO has cautioned against going in for sphisticated and highly mechanised production methods which may be a short cut to industrialisation. They tend to fail in providing jobs and cheap essential foods for large number of people. Some two thousand small scale units now in operation in the rural areas of India have reduced local unemployment. In contrast, a bakery in an African country has imported a $ 1000 oven that needs only four men to operate.

Steady Progress in Atomic Energy Programme

India's atomic energy programme maintained a steady tempo in 1978-79, building up invaluable assets of skilled personnel, nuclear infrastructure and advance in technology, says the annual report of the Department of Atomic Energy. The report points out that India is among the few developing countries pursuing an independent nuclear policy, sustaning its nuclear programme largely on its own. The report says though atomic energy has never been entirely free from the pulls and pressures of 'real plotik' the pressures only went to strengthen further efforts for the use of nuclear energy for peaceful purposes.

Work on Madras Atomic Power Project (MAPR) and Narora Atomic Power Project (NAPR) is going on. In Unit I of MAPP, installation of equipment has been completed in all areas except in fuel handling and instrumentation.

The Tarapur Atomic Power Station generated 2,178 million kwh, in the first eleven months of the year, registering a capacity factor of 64.7 per ent. The station sent out around 1,072 million units of power to Maharashtra, and around 946 million units to Gujarat. This is 110 percent of the generation target as adopted for this period by the Central Electricity Authority.

Unit I of the Station was operated at 170 MWe to conserve the available fuel in view of the uncertainities of supply of enriched uranium from the USA, and also due to shortage of space for storing spent fuel. Unit II of the Station was operated continuously at 90 percent of its capacity, bringing its on-line availability for the first 8 months of the year to 91.11 percent, and capacity factor to 78.1 percent

A noteworthy development at the Nuclear Fuel Complex at Hyderabad during the year is the commissioning of the Stainless Steel Tube Plant in April 1978. It produced about 35 tonnes of seamless tubes, valued at approximately Rs 2.9 million upto December 1978.

Another plant in hand at the Complex is the Ball Bearing Tube Plant. The plant has a capacity of 21,000 tonnes of ball bearing tubes and 3,000 tonnes of oil drill pipes per annum.

A reactor research centre has been set up at Kalpakkam near Madras for carrying on R and D work in breeder technology. A fast Breeder Test Reactor is coming up at the Centre.

The Heavy Water Project at Baroda is undergoing repairs and is expected to commence production by end of 1979. The Tuticorin Heavy Water Plant, which commenced production in July 1978, was not operating for some time due to the shutdown of the ammonia plant of the SPIC's fertilizer unit. It commenced production again in January 1979, but had to be shut down again owing to some technical

problems with SPIC's ammonia plant. The Talcher plant is expected to become operational by end of this year. Commissioning work on the Kota plant is expected to start in December, with the plant likely to go on stream in the middle of 1980.

A 2 MVA diesel generator is likely to be installed at Variable Energy Cyclotron at Calcutta by the middle of this year to ease the bad power situation.

Another research facility, a 100 MW thermal reactor, R-5, wholly of Indian design, is at present under construction at Trombay. Currently, civil works on the reactor building and associated facilities are nearing completion and the reactor components are being fabricated.

During the year, the Bhabha Atomic Research Centre (BARC) processed and supplied over 32,000 consignments of 50 radiopharmaceuticals to hospitals and medical research institutions in the country. Around 200,000 patient investigations are estimated to have been carried out through such radio pharmaceuticals and sevices. To enhance the capacity for radiopharmaceutical development and production, a radiopharmaceutical laboratory is being built at Vashi, near Bombay.

Among other applications during the year is the use of the radiotracer technique for locating minute leaks in the 140 km long Koyali-Viramgam oil pipeline The inspection was carried out at less than one-tenth of the cost of the conventional technique and saved at least six months time in the commissioning of the pipeline. The radiotracer technique was also used to examine the nature of a geological fault at the Lakya dam site of the Kudremukh Iron Ore Project in Karnataka.

In the fields of biology and agriculture, research work at BARC has helped in the development of a number of high yielding, diseas-resistant mutants of a variety of crops. Two pilot plants for desalination have been working with good results at BARC.

Science and Technology

Technology for Ceramic Colours

The technology for producing overglaze and underglaze ceramic colours covering the principal shades has been developed at the Central Glass and Ceramic Research Institute (CGCRI) at Calcutta. The tehcnology is economically viable for the small scale sector.

Ceramic colours are extensively required in the pottery industry to make the products decorative and attractive. The stains (pigments) which impart colour characteristics and are essential ingredients of ceramic colours also find direct use in enamel and pottery industries for making coloured enamels, coloured pottery bodies and glazes. Ceramic colours and stains valued at about Rs. 2 million are required annually and substantial amounts of these are still being imported.

The process for producing ceramic colours developed at CGCRI consists of three steps : firstly stains or pigments are produced by calcining the batch in an oil-fired or electric furnace in the temperature range of 1000°-1300C° followed by washing and fine grinding. Then overglaze and underglaze fluxes are produced by smelting or calcining the batch in an oil-fired or electric furnace in the temperature range of 10000°12000°. Lastly, pigments are mixed with the respective fluxes by wet grinding (—300 mesh) followed by drying and sieving and overglaze and underglaze colours are produced.

Manufacturing equipment like calcination furance, ball mill and sieving accessories are indigenously available. Most of the raw materials are also indigenously avaiable. Some of the colouring agents like cobalt, nickel and cadmium compounds are imported items but these are easily available.

The process has been studied on a semi-commercial scale at CGCRI and the institute has so far supplied stains and ceramic colours worth Rs. 300,000 to the industry.

The suggested capacity of an economically viable unit is 50 kg of overglaze and underglaze ceramic colours of varying shades per day in one shift. Capital investment on plant and equipment ofsuch a unit will be Rs.200,000 lakh and working capital Rs.300,000 The cost of production has been worked out on an average of Rs 85/kg depending on the colouring shades, giving a profitability of 43 percent.

Data from Bhaskara

Bhaskara had completed more than 1180 revolutions around the earth till August 24, 1979. Of these 272 passes were tracked by the ground station at SHAR and 288 passes by the ground station at Ahmedabad. During one month ending August 15, 1979 the ground stations issued 315 commands to control the various operation of Bhaskara. These included switching on and off the microwave radiometer payload for data collection over the Indian land mass and the adjoining areas; evaluating the performance of different indigenous solar

panels; gathering data on the satellite behaviour and on the earth's carbon dioxide layer over extended regions of the globe using the onboard tape recorder; and maintaining the orein-tation of the satellite correctly by appropriate actuation of the onboard control systems from ground.

So far, microwave radiometer data have been obtained from more than 65 passes. Further, the subsidiary experiments such as the thermal paints and solar panels are also continuing to provide usefuldata. Detailed analyses of the data from all the working instruments are in progress.

The X-ray astronomy experiment functioned satisfactorily for the first month of satellite in orbit. The data obtained during this period are being processed. Based on the experience during the development of this payload, the expectation was that the experiment could be considered a success if the camera functioned normally for a month in orbit.

The anomaly related to the switching on the TV camera is under laboratory simulation in an effort to understand its nature and cause and to find out methods of overcoming the problem without endangering the spacecraft. Although the two attempts made so far to switch on the TV cameras have not been successful, the spacecraft team has not given up hope of brining this experiment into operation.

The several objectives of the mission, except for the earth observation experiment to be conducted through the TV cameras, are in the process of realisation. Approximately, two-thirds of the technical tasks set-forth for the mission are expected to be successfully completed.

Multi-Terminal Direct Data Entry System

An indigenously developed Multi-Terminal Direct Data Entry System has been installed at the National Informatics Centre in New Delhi. The system has been designed to speed up data entry and produce error-free computer data at less cost. It has been developed by Processor Systems (India) Private Limited at Bangalore in collaboration with Electronics Trade and Technology Development Corporation (ETTDC).

This eight-bit processor has eleven positions for data entry. Eleven persons can simultaneously operate it. The system is capable of accepting data from sixteen video terminal positions to perform a mixed task of data entry and file management.

The system known as star/816 is the first modern data entry system in India. At present the source documents are converted into machine processable form using a key punch. The key punch is slow, largely meehanical and its end product, the punched card is consumable. The punched card requires complete repunching when a keying error is detected. The star/816 substitutes consumable cards with resusable magnetic tape or diskettes. Electronic recording takes the place of mechanical punching and the productivity of the operator improves.

The Star/816 supports upto 16 keystations operating simultaenously. Each keystantion includes a Cathode Ray Tube (CRT) display for easy visual verification of enteredata and a keyboard with a choice of ASR or IBM 029 keyboard.

The data fed in through the keyboard is validated by the controller and echoed on the screen. The operator has the opportunity of vasually verifying its accuracy and correcting errors immediately. A second operator, however, repeats the operation to ensure accuracy of data and to correct any errors recorded on the first run. Audio-visual signals indicate errors detected during verification.

This procedure ensures speed and accuracy of data translation from the manual documentation to the records medium. The system is also equipped with a floppy disc drive for sorting and for storage until verification. The entires system is interfaced to a 7-track or 9-track magnetic tape drive.

The system permits rapid change from job to job and ensures improvement in conversion of source document. The Central Control maintains strict control over production, from recording of statistics to labelling of keystation assignments. Tutoring sequence displayed on each operator screen enhances productivity by helping to ensure proper initial entry.

Upto one megabyte of data can be stored on the floppy disc of the star/816. Hence, large batches of data can be retained for rapid editing. Accuracy of data right down to the individual key stroke is ensured, since each entered character is examined and displayed only if it conforms to the format.

This low cost system will be very useful for collection and processing of data at national and regional computers centres and many computer installations. The system can be of great use in technical, commercial and industrial establishments which have voluminous data for computer processing. It is expected to result in a

substantial saving of foreign exchange. ETTDC has already.

ISI's Specifications for Certain Products

Indian Standards Institution (ISI) has published Indian standard methods for sampling of burnt clay tiles (IS: 8920-1978) which prescribes the methods for sampling and criteria for conformity of burnt clay tiles.

Clay tiles are extensively used in flooring, roof finishing and lining works. With the adoption of complete mechanized plants in the production of clay products, these tiles will be produced in larger numbers and will find greater application in general building construction. It is, therefore, imperative that due consideration is given to the sampling procedures which would help in proper and objective evaluation of the quality of the clay tiles. This standard lays down the methods for sampling of clay tiles as duly evolved on the basis of the statistical principles and practical considerations.

The procedures for sampling of different types of clay tiles have been indicated in the respective material specifications. However, in view of these methods and unify them into a separate single standard so as to give more detials of sampling for the various characteristics constiuting the quality of clay tiles. It is hoped that this standard would help in the development of proper sampling of clay tiles in the country.

The ISI has also published Indian standard guidelines for design of large earth and rockfill dams (IS:8826-1978) which lays down guidelines for design of large earth and rockall dams.

With the advancement in the design and construction of large earth and rockfill dams on relatively unfavourable foundations, a number of river valley projects in the country requirement achieve overall economy. It is, therefore, considered necessary to provide guidelines for the design of such structures in the country.

Another standard published relates to standard specification for nitrofen emulsifiable concentrates (IS:8957-1978) which prescribes the requirements and the methods of sampling and test for nitrogen emulsifiable concentrates. Nitrofen emulsifiable concentrates are used as agricultural herbicide. Nitrofen emulsifiable concentrate is generally manufactured to contain 25 percent (m/m) of nitroten.

An Indian standard specification for farm drainage concrete tiles (IS·8968-1978) which dovers the requirements and methods of test for concrete tiles with open joints used for farm drainage purposes, has also been published.

Different types of concrete pipes have been in use in this country for water mains, sewers, culverts and in irrigation. IS:458-1971 Specification for concrete pipes (with and without reinforcement) (*second revision*), covers concrete pipes. Use of concrete pipes has also been recently increased for drainage of sub-surface water in farms. A need has, therefore, been felt to formulate requirements for such pipes also known as 'tiles' which are intended for farm drainage purposes. This standard has been prepared to cover these tiles.

Indian Standards specification for chlormequat chloride aqueous solutions (IS:8962-1978) has also been published, which prescribes the requirements and the methods of sampling and test for chlormequat chloride aqueous solutions.

Chlormequat chloride is a plant growth regulant which usually induces retardation of shoot elongation and vegetative growth in most of the plants. It is used in agriculture for increasing yields and improvement in quality of various crops Chlormequat is generally formulated as an aqueous solution containing 50 percent (m/m) of chlormequat chloride (2 chloroethyl trimethyl-ammonium chloride.

Still another standard published is about standard specification for edifenphos, technical (IS:8954-1978) which prescribes the requirements and the methods of sampling and test for edifenphos, technical. Edifenphos is a fungicide and its formulations are used on agricultural crops.

All these standards published by the ISI provide for Certification Marking of the product manufactured according to the specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Marks on their products may contact the Indian Standards Institution. Copies of the standards and details of the ISI Certification Marks Scheme are available from the offices of the Indian Standards Institution located at New Delhi, Ahmedabad, Bangalore, Bhopal, Bhubneshwar, Bombay, Calcutta, Chandigarh, Hyderabad, Jaipur, Kanpur, Madras, Patna and Trivandrum.

Camplimentarity of Social Engineering and Agricultural Technology Urged

Inaugurating the international symposium organised to commemorate the Golden Jubille of ICAR and the first global convention of the International Federation of Agricultural Research Systems for Development, (IFARD) recently in New Delhi, the President of India, Mr. Neelam Sanjiva Reddy, urged the [illegible]

generation of agricultural scientists and scholars to keep close to plants and farmers. The President also said that social engineering and agricultural technology should go hand in hand.

India's President said that he was happy to know that on the occasion of the commemoration of the Golden Jubilee of the Indian Council of Agricultural Research, the first global convention of the IFARD was also being held. This coincidence was appropriate since crops, farm animals and fish, as well as pathogens and pests, do not recognise national boundaries. Even before the discovery of the new world by Columbus, there had been exchange of plants and animals among countries in all parts of the world.

Quoting the late Professor Haldane, who chose India as his home towards the latter part of his life, used to say, that when one lacked ideas, he should go and buy costly equiment. The President remarked that he was not mentioning this to under-rate the importance of modern sophisticated equipment; but only to underline the fact that agricultre, as a profession will always be a synthesis of art and science The closer one remained to the earth, the more one was able to understand its secrets and enjoy its bounties. He appealed to the younger generation of agricultural scientists and scholars to keep this fact always in mind in their day-to-day work and remain close to plants as well as to the farmers, who toiled in sun and rain to cultivate them.

The President noted that the world to-day was divided into two parts—an affluent part where the prayer "God, give us our daily bread" had lost its relevance; and the other—a poverty-stricken part, where God was bread He urged the participating scientists to ponder over the implications of this dangerous dichotomy and to help to develop strategies by which hunger became a problem of the past in all parts of the planet.

The President continued that the exchange of material and ideas frequently helped to purchase time, and time was a very precious commodity for countries like India This was why he was happy that they had now formed IFARD which should hlep to generate organised opportunities for exchange of information and material among the agricultural research systems of developing countries

Referring to the problems that merited the attention of the participants, the President said the first problem related to the ecological regeneration of the Himalayas. He cautioned that unless the eco-systems of the entire Himalayan range were protected and restored to their original state by the end of this century, the future of agriculture in the Indo-Gangetic plains would be undermined. National food security systems should be based on the foundation of ecological secrurity, he suggested.

The seond problem was connected with energy conservation and recycling. Agriculture was the largest solar energy harvesting enterprise in the world. Since agriculture was the major source of renewable wealth, it was only countries with a dynamic farm base that were likely to be economically prosperous in the 21st century. He urged the scientists to develop techniques by which renewable and non-renewable forms of energy could be blended in an optimum manner.

The third problem was that agricultural growth will have to be accompanied by stability of production. This could be achieved only by developing technologies which could mitigate to the extent possible the adverse impact of aberrant weather on crop production. Agricultural scientists and meteorologists will have to work together in accomplishing this task, he opined.

Listing the fourth problem, the President urged the participants, to look at the current patterns of land use and suggest methods of improving the income and employment potential of land without detriment to its long term biological potential. Land and water use systems should be selected on the basis of their beneficial ecological, economic and employment generation properties. Finally, the President said, as the pressure of population on land increases, the soil and the sea, and the farmer and the fisherman will have to receive equal attention. In other words, optimum blends of crop and livestock production and agriculture and aquculture will have to be developed. Mixed farming has always been as way of life in rural India. Such system needed improvement so as to provide more income, employment and food per units of space,time, water and sunlight

The President noted that the famine was largely man-made caused by a skewed distribution of available food. Equitable distribution was obviously as important as enhanced production, he stressed. Social engineering and agricultural technology should, the refore, go hand in hand, he declared. Underlining the need to further strenghten Food for Work Programme, the President felt that such social security measures which enabled every one to win his or her daily bread through work, could alone lead to the eradication of hunger without eroding human dignity. He underlined

the need to superimpose over the era of science and technology a new age of humanism, where all human-beings enjoyed the right to work and thereby claimed a share of production. He was confident that the International Federation of Agricultural Research Systems for Development by promoting research and educational efforts suited to different socio-cultural conditions, could help to establish such a new international ethos.

The President further remarked that in accomplishing this great task, the agricultural scientists had a strong friend and ally in the farmer. Farmers of India were hard working and were receptive to new ideas. They had, however, no risk-taking capacity or input mobilising power. Therefore, the scientists will have to offer to them low risk technologies and convince them by demonstrations and by extension efforts that they will benefit from new practices. By associating themselves closely with farmers, they will find that there was much to learn from their vast field experience. While they conducted formal research under controlled conditions, farmers conducted non-formal research with nature as their laboratory. Just there was a need for a blend of formal and non-formal education for combining literacy and technical skills, so also there was a need for an optimum belend of formal research carried out by well trained scientists and non-formal research carried out by rural women and men. If scientists wanted to take advantage of the strength that such a blend will confer upon their research system, they will have to adopt an open-door research policy, where they conducted their research not just within the confines of their experiment stations but also in farmers' fields.

Wishing a very bright future to the ICAR family consisting of a large number of agricultural universities; Central institutes, National bureaux, all-India coordinated research projects and krishi vigyan kendras, the President expressed the hope that ICAR will continue to render dedicated service to the farmers of India. Concluding, the President undercored that ICAR's success was vital for ensuring the social stability of nations, since as the Roman philosopher, Seneca, once said that a hungry people listened not to reason nor cared for justice, nor was bent by any prayers.

In his address at the inaugural session, Mr. Brahm Perkash, Union Minister for Agriculture and Irrigation, traced the growth of ICAR from its small beginnings in 1929 to the present day where it organised and re-vitalised agriculture in India on scientific lines. The establishment of ICAR fifty years ago was the culmination of the realisation that India needed a science oriented of agriculture in place of traditional agriculture in the context of rising population. ICAR had since, developed a network well-equipped research institutes which carry on research on almost all crops, systems and disciplines. He added that the most innovative event contributing to agricultural growth was the initiation of the All India Co-ordinated Research Projects which carried the results of basic research to the field for full evaluation on a multi location basis.

Outlining the major programmes of the Golden Jubilee celebrations, the Minister said that the important among the Golden Jubilee Celebration Programmes was the "lab to land" programme. For the first time, proved technology would be transferred to 50,000 farm families all over the country under the direct supervision of agricultural scientists. In all there will be 300 research centres of ICAR institutes and agricultural universities where teams of scientists, belonging to various disciplines would join hands under this programme

To mark the Golden Jubilee and International Symposium on agricultural research and education system for development was being held. Further, the ICAR was establishing a citirus gene sanctuary in the Garo Hills, Meghalaya.

The Minister said that to mark the ICAR Golden Jubilee year, institutional awards were being made and would cover ICAR institutes, agricultural universities and the all India coordinating research projects.

Regd. No. D(C)70

India International Trade Fair

Organised by the Trade Fair Authority of India

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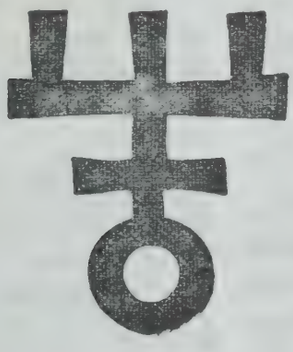

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economic and commercial news

News Highlights

Indo-Iraq Agreement on Joint Ventures

India and Iraq have agreed to expand further areas of bilateral economic co-operation and to undertake the designing and execution of civil turnkey projects in the two countries as also joint ventures in the third countries. An agreement to this effect was signed between the National Projects Construction Corporation of India (NPCC) and State Construction Contracting Company of Iraq (SCCCO). The agreement is within the frame-work of the protocol provisions under the Joint Indo-Iraq Commission.

IDBI Credit to Uganda

Industrial Development Bank of India (IDBI) has recently sanctioned a credit of Rs. 50 million to the Government of the Republic of Uganda for financing export of Indian machinery and equipment from India to Uganda. The credit is repayable in a period of about 12 years including an initial grace period of 2 1/2 years. IDBI will finance 90 percent of FOB price of goods. The credit will be utilised for purchase of equipment from India.

(Contd. on page 2)

Export Performance and Potential

Notable Hike in India's Exports to Germany

According to Indo-German Chamber of Commerce, India's exports to Germany at DM 497.6 million fared extremely well during the first half of 1979 and achieved a growth rate of 42.2 percent as compared to the corresponding period last year when the exports amounted to DM 349.6 million. This achievement is all the more striking if compared with the performance of India's exports last year when they had dipped by 2.8 percent.

The positive trend set in already at the end of 1978 have gained momentum during the last few months. The growth rate in India's exports to Germany was 22.7 percent during the first quarter of 1979 and has now reached a record mark of 42.2 percent.

India's main export items to Germany are: cotton textiles (DM 87 million), carpets (DM 78 million), leather (DM 47 million), leather articles (DM 23 million), tea (DM 23 million), oil cakes (DM 20 million), precious and semi-precious stones (DM 20 million), basic chemical raw materials (DM 14 million), cotton fabrics (DM 13 million), and copper products and copper alloys (DM 11 million).

During the same period, India's import from Germany remained within the average growth rate of the recent past and increased by 14.4 percent (from DM 549.1 million to DM 628.2 million). For comparison, during the first half of 1978, India's imports rose by 15 percent and during the full year of 1978 by 11.4 percent.

Thus, the trade gap narrowed down from DM 199.2 million (imports DM

India's Favourable Trade Balance with France

India's exports to France moved up to Francs 760.9 million during the first half of the calendar year 1979 from Francs 744.2 million during the corresponding period last year. India's imports on the other hand declined from Francs 726.8 million to Francs 518.9 million during the comparable periods. Thus India's favourable balance of trade shot up to Francs 242 million during January- June 1979.

Indo-Kuwait Exchange Company

According to a commercial report from Embassy of India, Kuwait, the State Bank of India has formed a joint ventures money exchange company in Kuwait in partnership with a Kuwaiti enterpreneur. The State Bank of India holds 45 percent of equity and Kuwaiti interests 55 percent in the company, capitalised at KD 100,000 (Rs. 3 million approximately). The company will engage in money exchange transactions including issuance of drafts.

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549.1 million and exports DM 349.9 million) , during the first half of 1978 to DM 130.6 million (imports DM 628.2 million and exports DM 497.6 million) during the first half of 1979.

With a view to further forging economic cooperation between the two countries, a technical evaluation team consisting of 12 members from 2 leading German producers of commercial vehicles, i.e., Volkswagen and MAN came to India recently to study the existing possibilities for building light transport vehicles in the country. The team visited various industrial centres in India including Bombay, Poona, Calcutta and Madras to collect first-nand information on the capacity and capability of the authomobile ancillary industries. The overall impression is said to very positive.

Under the Indo-German science cooperation agreement, a group of representatives from the Government of India and BHEL (Bharat Heavy Electricals Ltd.,) visited Germany recently. The delegation had discussions with their German counterparts from the various ministries as well as with representatives from different German companies like Humboldt Wedag, VGB, VKW AG. Besides, they visited several industrial sites to see coal gasification under pressure, thermal power plants and a coal washery.

A 12 member delegation is expected to visit India during the month to have discussions with the Department of Coal, the Coal India and to visit coal mines. The delegation is coordinated by the Association of German Machinery Manufacturers (VDMA).

Economic Cooperation between India and Sri Lanka

The economic Cooperation between India and Sri Lanka has been growing steadily over the years. According to commercial report from the High Commission of India, Colombo, the Sri Lanka Government has authorised State Cashew Corporation to float a joint venture with a State agency in India and develop 10,000 acres of land in the Mannar district. The Sri Lanka Minister of Plantation and Industires, Mr. M.D.H. Jayawardena has recommended to the Government that the Sri Lanka Cashew Corporation could co-operate with Indian State agency. The Sri Lanka Government has reportedly accepted the recommendations.

The report adds that the Sri Lanka Ministry of Transport State Trading Corporation would also be importing 200,000 bicycles. The Sri Lanka State Trading (General) Corporation has placed an order for 1500 bicycles with India's cycle manufacturer namely, the Roadmaster India Limited.

With a view to forging further bilatereal cooperation, Mr. A. V. S. Mani, General Manager, Telecommunications, visited Sri Lanka for providing help and guidance in the tower erection and antenna hoisting. This visit was paid on the basis of a request made by the Sri Lanka Post and Telegraph authorities. The Indian delegation held talks with their counterparts and the various matters were thrashed out.

It will be reaclled that Indo-Sri Lanka micro wave project is being carried out under Indo-Sri Lanka Economic Cooperation since 1972. It was

at the last meeting of the Sub-committee for economic cooperation of India and Sri Lanka Joint Commission that the progress of the microwave project was discussed.

Besieds, a five member Indian tea delegation headed by Mr. B. K. Goswami, Chairman, Tea Board, held bilateral discussions with Sri Lanka Tea Board on product development and instant tea. The Sri Lanka delegation was headed by Mr. T. N. Dunuwille, Director General of Sri Lanka Tea Board.

The Expert Group on both sides discussed the outlook for tea and the changes that had occurred in the international market since the last meeting of the Group in March, 1979. While thrashing out various matters connected with the tea industry, the Group expressed its concern regarding the further decline in tea prices.

Another five member Indian tea delegation headed by Mr. P. K. Kaul, Additional Secretary, Ministry of Commerce, and also Chairman of International Tea Promotion Association visited Sri Lanka to hold bilateral discussions with Sri Lankan counterparts. The Sri Lankan delegation was headed by Mr. B. Weerckoon, Secretary, Ministry of Plantation and Industries. In the meeting, the present status of the progress being made by the International Tea Promotion Association was also discussed. Both delegations agreed that since the Association was now in existence, all steps should be taken to make the Association an operational body as early as possible.

Indo-Mauritius Housing Co-operation

India has offered to extend full cooperation to the Government of Mauritius in the field of housing technology, especially low-cost housing and cyclone-resistant structures as well as housing finance.

The offer was made by Mr. Ram Kinker, Union Minister for Works and Housing, to Mr. Eliezer Francois, Minister of Housing, Lands and Country Planning, Government of Mauritius when the later called on him recently in New Delhi.

Thanking the Government of India for the offer, the Mauritius Minister said that his visit to the country was very rewarding and educative and he was much impressed by the massive construction activity going on in the capital and the various steps taken by the Government of India to tackle the housing problem.

Mr. Eliezer Francois said that the Government of Mauritius will explore the avenues where this offer of cooperation could be gainfully availed of.

Earlier, the Mauritius Minister visited some of the housing projects undertaken by the Delhi Development Authority and the Central Public Works Department to have a glimpse of the massive construction programme.

The distinguished visitor evinced keen interest in the designs, landscape plans and the material used in construction of these projects. He was particularly interested in the innovative housing techniques and the use of local building material for lowcost housing developed by the National Buildings Organisation and the Housing and Urban Development Corporation (HUDCO).

He also visited the Bodela Housing Complex being constructed by the Housing and Urban Development Corporation for DDA for the economically weaker sections of society.

The Mauritius Minister had detailed discussions with Chairman and Managing Director of HUDCO, who explained to him in detail the various steps taken by HUDCO to provide finance for housing and urban development and build houses for larger section of society especially the weaker sections which could be within the paying capacity of these people. He mentioned various projects undertaken by HUDCO in various parts of the the country to demonstrate how the cost of construction could be reduced and low-cost houses constructed in larger numbers to meet the need of the rural and urban poor.

MECON's Tie-up with Indonesia for Rolling Mills

Metallurgical and Engineering Consultants (India) Limited (MECON) has secured a contract to prepare a feasibility study for the setting up of four cold rolling mills of various sizes in Indonesia. An Agreement to this effect was signed recently in New Delhi between Mr. T. Ariwibowo, President Director, Krakatau Steel, Indonesia and Mr. K. C. Mohan, Chairman-Cum-Managing Director, MECON. The initial studies are to be completed by MECON by March, 1980.

The award of the contract follows the setting up of a joint task force in the wake of the visit of the Indonesian Minister for Industries Mr. A. R. Soehoed, in February 1979 and the return visit of the Union Minister of Steel, Mines and Coal, Mr. Biju Patnaik to Indonesia in March 1979, to identify various fields of co-operation between the two countries for the mutual benefit.

A MECON press release says that the rapport established between Indonesia

and India following the efforts of Mr. Biju Patnaik would also result in future collaborations in the fields of non-ferrous metals, cement and pulp, small scale and machine tool industries, including training of manpower.

Indo-Norway Agreement on Fishing Equipment

An agreement for the supply of "base" spares, fishing gear and equipment for the first two of six exploratory fishing vessels, now being constructed at Goa Shipyard with Norwegian aid, was signed recently in New Delhi by Mr. R. K. Saxena, Joint Secretary in the Ministry of Agriculture and Irrigation, on behalf of the Government of India, and Mr. John Dag Hutchison, Second Secretary, Development Cooperation of the Norwegian Embassy in India on behalf of the Norwegian Agency for International Development (NORAD).

NORAD is providing 3 million Norwegian Kroners (about Rs. 4.6 million) for the supply of these spare parts and other equipment. The equipment supplied will help in the smooth operation of the two vessels after delivery, which is expected within two months. In addition to the six vessels under construction, two more are likely to be built with Norwegian assistance.

Earlier, an agreement had been signed between the Government of India and Government of Norway in November, 1975 for the construction of fishery survey and training vessels in India. Norwegian assistance is provided in the form of supply of vessel components and mechinery for strengthening the Goa Shipyard and expert services and consultancy.

India has declared 360 kms. of sea from coastline as its exclusive economic zone. Large fishing vessels are required to survey the resources in the economic zone as also to provide sea training to operators.

Indo-US Financial Cooperation

India and the United States recently signed an agreement for $22 million (Rs. 171.60 million) as part of development assistance to India for US financial year 1979.

The agreement was signed by Mr. S.V.S. Juneja, Joint Secretary, Department of Economic Affairs in the Ministry of Finance and Mr. Robert F. Goheen, Ambassador of the United States in India, on behalf of their respective Governments.

The agreement is for a loan of $22 million for fertilizer promotion. The loan funds are intended to finance imports of ammonium sulphate, diammonium phosphate and urea.

The amount is a part of $150 million, which may be authorised by the US Government during the three years (1979-81) to assist the Government of India in financing the importation of fertilisers as part of the Government of India's overall programme for increasing fertiliser consumption throughout the country and for broadening the basis of participation in fertiliser use in remote areas and among a small farmers.

The loan is repayable in forty years, with a ten year grace period and carries an interest rate of 2 percent during the grace period and three percent thereafter.

It may be recalled that on June 30, 1979, Government of India had signed two other agreements with US-AID for a value of $68 million (Rs. 544 million) for two projects, namely, rural electrification and malaria control. With the signing of the present agreement, the total assistance authorised by USA under their programme for US financial year 1979 amounts to $90 million (Rs. 720 million).

Upswing in Handloom Goods Exports

According to the Handloom Export Promotion Council (HEPC), the total value of exports of handloom items during the first quarter of the current financial year was Rs. 605.50 million, as compared to Rs. 588.90 million during the corresponding period last year, thus showing an increase of Rs. 16.60 million. The rising trend was shared by cotton made-ups and silk items.

The aggregate exports of real Madra handkerchiefs during the period under review were however, lower at Rs. 31.30 million as compared to Rs. 43.20 million during the corresponding period last year. The exports of lunghies/sarongs were also lower at Rs. 21.90 million as compared to Rs. 22.50 million. So was the case with exports of dhoties, sarees and shirtings which stood at Rs. 1.32 million as compared to Rs.4.83 million. Other fabrics items declined from Rs. 51.80 million to Rs. 47.80 million.

Exports of floor coverings registered uptrend at Rs. 8.78 million from Rs. 7.78 million. Bedcovers and bedspreads did not share rising trend and were lower at Rs. 14.60 million as compared to Rs. 18.90 million. Pillowcovers and table cloth too moved down from Rs. 11.75 million to Rs. 8.34 million Towels and napkins contributed to the rising trend by surging forward to Rs. 24.20 million from Rs. 16.60 million.

Exports of other made-up items also climbed up to Rs. 10.70 from Rs. 8.28 million.

Exports of silk items contributed to upswing in as much as mulberry silk goods soared to Rs. 95.70 million from Rs. 77.10 million and tassar silk goods

also went up to Rs. 15.70 million from Rs. 8.98 million.

India's Participation at AIEE'79 at Melbourne

India's participation organised by the Engineering Export Promotion Council in recently concluded engineering exhibition at Melbourne, has been a great success. The exhibition was sponsored by the Metal Industries Trade Association of Australia. The Australia's International Engineering Exhibition 1979—most popularly known as AIEE'79 — is considered as a most important international exhibition held in Australia. Along with India, ten other highly industrialised nations like, USA, Great Britain, USSR, France, Rumania, Poland, Yugoslavia, Italy and Germany participated in this fair. Besides, 125 participants representing Australian industries took part.

Indian engineering products like, CNC controlled lathes, milling, drilling, shaping and planning machines, presses, grinders, electrical motors, hand tools, bicycle components, automotive parts, hardness testers and measuring equipment, vices, fans and electrical light fittings were displayed at the Indian pavilion. Indian pavilion had attracted huge number of visitors who were highly impressed with the products displayed. Among the dignitories, Sir Zelman Cowen, Governor General of Australia who visited Indian pavilion, had high appreciation for India's advancement in the engineering industry.

Apart from its success in reinforcement of the confidence in the minds of the buyers of this region about Indian engineering products, the exhibition was successful in booking orders. Goods worth Rs. 1.3 million were sold on the spot. The total business booked by Indian firms at this fair amounted to Rs. 20 million. Besides, trade enquiries for Rs. 45 million were also received. It is hoped that a substantial portion of these enquiries would materialise into orders in the near future.

The world markets have been offering greater opportunity for engineering exports in many diversified product range. Equally, the exports of Indian engineering goods have been stepping up from year to year. In 1978-79. India's engineering exports aggregated to Rs. 6850 million and it is aimed at attaining the stipulated target of Rs. 10,000 million by 1980-81.

In order to promote export publicity in the stronghold and emerging markets in respect of dieffrent product range of engineering items, a series of new advertisements have been prepared. The Indian exporters can now avail of institutional/corporate publicity campaign and dovetail their advertising appropriately, specially in the media which the Council has selected in consultations with its foreign offices located in different geographical regions of the world. The new advertisements are: (i) Turnkey power projects; (ii) Indian civil engineering and construction expertise gaining ground the world over, etc.

Shipment of Handloom Fabrics to Australia

India has successfully persuaded Australian Government to release all detained shipments of handloom fabrics and made-ups, and allow an unrestricted import of these items till October 10, 1979, pending its decision on India's request to raise tolerance limit to 10 percent. These shipments valued at about Rs. 5 million were detained by the Australian authorities on the plea of its containing more than permissibe limits of non-fibre content.

Indian handlooms enjoy duty free quota free status under the handicrafts concessions laid down in Australian bye-law 36. According to this, they should be made by machines handled by hand or foot and should possess an artistic and decorative character. Further, they have to be made from natural fibres.

On representation by India during a meeting of Joint Trade Committee in Canberra in November, 1978, when the problem had arisen following detention of 30 shipments on detection of traces of viscose in the handloom consignments, Australian Government had permitted as one time exception the release of all detained shipments and had also agreed to 5 percent margin of tolerance.

The fresh cases of detention indicate that this was being exceeded and, as such, exporters should ensure that shipment of handlooms containing more than 5 percent synthetics is not made.

Concessions to Exporters at Certain Ports

The Kandla Port Trust has granted the following concessions to the exporters for promotion of export traffic at this port:

(a) Grant of 25 percent rebate in wharfage charges on cargo exported to foreign as well as Indian ports except, in cases where separate rates of export wharfage has been indicated.

(b) Grant of 25 percent rebate in storage charges for cargo exported to foreign as well as Indian ports.

(c) A free period of 15 days would be allowed in transit sheds for export

cargo as against the free period of 4 days for import cargo.

(d) A 50 percent concession in cargo lifts charges for lift provided in the warehouses for hoisting cargo to first floors of the warehouses.

The Paradeep Port Trust has also extended concessions to exporters at this port. The exporters would be given necessary storage facilities, both covered and open within the port area on nominal rent. These facilities would enable the exporter to bring their cargoes to the port area much in advance of the arrival of the ships and as such to build up the stock in time.

The storage facilities available to the shippers would consist of well laid out open stacking areas, transit sheds and warehouses which have been connected by rail or road.

The export cargoes would also be allowed free storage in the transit shed for a period of 5 days and would be charged the transit dues at a concessional rate. The transit dues on export cargoes would be charged at the rate of 7 1/2 paise per tonnes per day as against 31 paise per tonne per day in the case of import cargoes.

Industrial Growth and Diversification

More Coal Projects Gets Clearance

Three new coal projects have been sanctioned to provide an additional 2.49 million tonnes of coal for the thermal power stations in Maharashtra and Madhya Pradesh and the coal washeries of the collieries in the eastern region. The three new open cast mines, to be developed at a cost of Rs. 503.60 million are the Katras open cast mine of the Bharat Coking Coal Limited (BCCL) in Dhanbad (Bihar), the Rajnagar mine of the Western Coalfields Limited (WCL) in Madhya Pradesh and WCL's Lalpeth mine in the Chandrapur district of Maharashtra.

Together with the 10 new projects cleared recently, additional coal 4 production capacity of about 6.74 million tonnes will be generated in the next 4 to 5 years. Action on the new projects has been expedited following the broad guidelines given by the Union Minister for Steel, Mines and Coal, Mr. Biju Patnaik, to speed up the development of new mines.

Clearance has also been given to a project to check fires in some of the coalfields of the BCCL in Bihar, costing about Rs. 290 million.

The Katras in Bihar, with an investment of Rs 260.40 million will produce 0.90 million tonnes of prime coking coal by 1983-84 to bridge the gap between demand and supply of prime coking coal. It will be linked to the proposed Dhanaband coal washery which will have a capacity of 3.6 million tonnes per year. In the meanwhile, the linkage of this project to Dugda washeries will continue. The mineable reserves of the area are 4.44 million tonnes, with project life estimated at 26 years at production level of 100 percent and 32 years at 85 percent production level.

The Rajnagar mine, with an annual production capacity of 1 million tonnes, will increase the supply of coal to the power houses of the Maharashtra State Electricity Board (MSEB) and help to bridge the gap in coal suplies from the Singareni collieries and the Singrauli coalfields. Production from this mine will be linked ultimately to the proposed thermal power station of the Madhya Pradesh Electricity Board (MPEB) at Birsingpur, as supplies from Singrauli and Singareni would have improved by the time this new power station comes up. With an investment of Rs. 124.30 million, this mine has total mineable reserves of 28.12 million tonnes and project life of 30 years at 100 percent production level.

Hindustan Lalpeth open cast mine of the Wardha valley coalfields, involving an investment of Rs. 118.80 million and mineable reserves of 11.2 million tonnes, will produce 0.59 million tonnes of coal by 1984-85. Proposed to be linked to the Chandrapur thermal power station, in its second stage, the production from the mines will initially be restricted to the level of output which can be transported by road to meet the shortfall in supplies to the power stations. The Wardha valley coalfields had in the past been under great pressure for supplying adequate quantity of coal to various consumers in the western region. This demand is likely to increase further with the expansion of existing capacities a o the setting up of additional power stations in the western region with the increased demand of the industrial sectors.

The project to check fires in the Jharia coalfields of the Lodna and Jogta mines of the BCCL, estimated to cost about Rs. 290 million, is intended to check coal fires in the region which have in the past resulted in loss of reserves, besides danger to workers, structures and installations. This envisages stoppage of fire through deep tunnel cutting, hydraulic stowing with sand and sealing of the surface. The project operations to be carried out simultaneously, will be completed in 24 months. The mineable reserves of the Lodna collieries are 284 million tonnes. The

amount of recoverable coking coal below the fire area at Jogta is estimated at 13.93 million tonnes. The success of this project is expected to be a major breakthrough in the coal industry and will act as a guide in coping with the hazards of fire in the coal mines.

Increased Supply of Diesel to States

An additional 66,000 tonnes of diesel will be made available for distribution during the month to all parts of the country with due consideration to the requirements of Uttar Pradesh, Punjab and Haryana. This will be over and above the quota that had been indicated to the States.

This decision was taken recently at an urgent meeting between Mr. A. Bala Pajanor, Minister for Petroleum, Chemicals and Fertilizers and Mr. Brahm Perkash, Minister for Agriculture. The meeting was called to discuss diesel shortage in the drought-stricken areas of the north-west part of the country.

The meeting reviewed the entire position on the availability of diesel taking into account the maximum imports that can be done within a short period. In view of the repeated requests made by the north-west states, particularly U.P., Punjab and Haryana it was found that the demand could be met to a large extent by working on very tight schedules, increasing imports and by efficient handling of wagons by the Railways.

The meeting was also informed that detailed studies would be made for the requirements in the months of November and December.

Duty Rates on Copper to Continue

In January 1978, some adjustments in the rates of customs and central excise duties on copper were made having regard to the costs of indigenous and imported copper. The Government has now decided to continue the same rates of customs and central excise duties till December 31, 1979.

Handloom Special Rebate Scheme

The Industry Ministry has sent a communication to the State Governments regarding the operation of the special rebate scheme to step up production and sale of handlooms.

The Government of India have decided to offer 20 percent rebate on sales of handloom cloth for a period of 30 days in all States. This rebate will be shared equally between the Central and State Governments. The States can operate this rebate scheme at any time upto March 31, 1980.

The State Governments are at liberty to break the duration of the special rebate into four parts of 7/8 days each to be operated at any time they wish, between the period mentioned above. However, the rebate period should not be broken into portions of less than seven days each.

Chalking Out Energy Strategies

Energy strategies for India will be the focal theme of the coming 67th session of the Indian Science Congress to be held during January 3 to 7, 1980 under the auspices of the Gauhati University. Professor A. K. Saha of the Saha Institute of Nuclear Physics, Calcutta will be the General President of the Science Congress.

Session of the Science Congress will be organised in thirteen sections. Original papers will be read at the meeting of each section. Discussions on subjects of special scientific interest will be arranged. A special feature of the Science Congress will be a series of popular lectures on scientific subjects.

The committee on science and its social relations, the Committee on science and economic development and forum on home science and nutrition will arrange discussions on some national problems or some other important topics pertaining to the focal theme accepted for a particular session.

Topics will cover a wide range of subjects including mathematical analysis of energy problems in physics, engineering and other sciences; solar energy and perspectives of nuclear energy in India; energy from coal natural gas, biomass and electro-chemical sources; health hazards of nuclear energy; utilisation of solar energy to improve physiology of crop plants; man-power resources of India; biogas from weeds and energy requirements in the rural areas of India.

Besides the topics related to the focal theme, symposia on specialised subjects will be held. Some of the important subjects to be covered are exploration of medicinal plants; eco-physiology of fishes; human ecology; and problems of leprosy and infertility in India.

In agricultural sciences, breeding for disease and insect resistance; and mechanism of resistance in rice against major diseases will be discussed. Psychology of social conflicts in the Indian context and dimensions of information processing will also be covered. In addition, some important topics in physics, chemistry, geology, mathematics and statistics will be discussed.

An exhibition of special instruments

like glass goods, balances, special apparatus and equipment and scientific books will be organised during the Session. An exhibition scpecially partaining to the Focal Theme is expected to be organised.

Stamping Purity of Gold Ornaments

Under Section 30 or the Gold (Control) Act, every licensed dealer is required to stamp on every piece of article or ornament manufactured by him certifying the purity of the gold except in the case of small sized ornaments and articles where it is not practicable to do so. There have been complaints from the public alleging malpractices by the dealers in regard to the purity of ornaments sold by them.

To begin with, as a measure of consumer protection and promotion of fair trade practices by the dealers, the Government has decided to enforce the provisions of section 30 of the Gold (Control) Act requiring stamping of purity on ornaments. In case of ornaments manufacturers using solders, the licensed dealer may either indicate purity both of the gold used excluding solders and that of the ornament as a whole when melted. If only one purity is stamped, it would mean that the ornament as a whole when melted will have the marked purity.

Complaints, if any, from the public in regard to non-stamping of purity or wrong stamping of the purity may be addressed to the nearest Gold Control Officer.

Significant Step-Up in Small Savings

Small savings collections in the country registered a significant increase in the first four months of the current financial year. During the period April-July, 1979, the gross collections stood at Rs. 8677.30 million and net at Rs. 2384.50 million, against the gross collections of Rs. 7116.60 million and net of Rs. 1354.40 million in the corresponding period last year.

The improvement in the net collections is thus about 76 percent over the previous year.

Small savings instruments comprise post office savings bank deposits, post office time deposits, cumulative time deposits, recurring deposits, national savings certificates, national savings annuity certificates and national development bonds

Two-thirds of the net collections in each State are ploughed back in the State as loans Besides, additional loans are paid to a State to the extent of 2.5 percent of its net collections for every 5 percent increase in its percentage of net to gross collections over the all-India percentage.

During 1978-79, a target of Rs. 4600 million had been fixed for small savings collections. The actual collections amounted to Rs. 8594 million. During the current year, a target of Rs. 6500 million has been set for the collections.

Numerous steps have been taken to popularise small savings. These include undertaking pilot projects in rural areas for intensive savings activities, organising training programmes for extra-departmental branch postmasters and field staff, setting up of special committees of public sector units on regional basis for promotion of pay roll savings scheme, appointment of more agents under the Mahila Pradhan Kshetriya Bachat Yojana, and making savings bank facilities available in many of the mobile post offices.

Details of the deposits made under the small savings schemes during the four-year period from 1974-75 are as under:

(Rupees ten million)

Year	*Gross*	*Net*
1974-75	1341.68	325.78
1975-76	1552.30	393.98
1976-77	1697.52	405.34
1977-78	2039.45	552.64

Expediting Institutional Assistance to Projects

The Industrial Development Bank of India (IDBI) is introducing a Participation Certificate Scheme with a view to facilitating quicker disposal of proposals for institutional assistance for projects up to Rs. 50 million. It would go a long way in providing more convenience to promoters of such projects as financial institutions have agreed for sale and purchase of "participations with risk" under the scheme. The scheme represents some significant procedural changes with regard to sanctions and disbursals of assistance to medium scale projects costing up to Rs. 50 million.

Under the scheme, projects costing up to Rs. 50 million will be handled in their entirety by one financial institution, normally the one which is first approached by the promoter, if found acceptable on appraisal, the entire financial assistance required by the project will be sanctioned by the same institution, which will also arrange for completion of the necessary documentation and other formalities. The same financial institution which will function as the lead, institution, will later deal with disbursals, follow-up and securing of repayments.

Sharing of the loan assistance by the other institutions will be through sale by the lead institution, and purchase by the others, of 'participations without recourse' or 'participations with risk' with the use of participation certificates. Sharing of underwriting assistance will be either through sub-underwriting or merely by passing on their shares to the others. The sharing will

ordinarily be agreed upon at inter-institutional meetings.

Thus, promoters of projects costing up to Rs 50 million would deal with only one institution, they would not have to deal with all the different institutions who share in providing assistance to their projects

As soon as certain procedural formalities have been completed, the Participation Certificates Scheme will be brought into effect. To start with, the scheme will be operated by the three all-India development finance institutions, viz, ICICI, IFCI and IDBI. The other institutions mav join later.

For the present, the sharing will be for the entire loan assistance carrying the same interest rate and with the same amortisation schedule. Circumstances may, however, develop in due course for sale and purchase to be undertaken of only a few maturities at rates to be determined by the conditions obtaining at the time. The participants themselves may on occasions choose to sell such participations.

To start with, the scheme is to be limited to projects costing up to Rs. 50 million, as over 60 percent of the number of projects assisted by the institutions are of cost up to Rs. 50 million. A good number of entrepreneur-promoters, it is expected, will get the benefit of the streamlining of procedures under the scheme.

Growth of Computer Industry

Of all the fruits of modern technology, the computer perhaps has come to attain the most pervasive influence in society. On the three decades that have passed since it made its first appearance, essentially as a device to perform fast calculations, the computer has grown to become the central control element in almost all commercial and engineering activities. In a way, the advent of the computer has had as great an impact on society as the industrial revolution of the nineteenth century. It is hard to visualise an area which remains, or will remain in the foreseeable future, unaffected by the sweep of the computer's influence.

The first computer installed in India was perhaps the one in the Indian Statistical Institute at Calcutta, in the 1950s. Though more than 400 computer systems are now operational in different parts of the country in a variety of application, this is a small figure compared to that in countries like Japan, Germany, UK and the USA. Perhaps this state of affairs is in tune with the normal problem that tend to make technology growth comparatively slower in the developing countries. But the usage of computers has to be widened in the country because of the computer's impressive power to accelerate development. The narrow view that computers displace men from jobs and, as such, do not fit into a situation of widespread and heavy unemployment is totally erroneous and must be given up in the national interest.

Computers are very sophisticated electronic systems with unique capabilities essential to the efficient performance of wide-ranging industrial activities, and play vital roles in defence, communications and the general industry. Their capacity for information processing and very high speeds and their ability to work as an integrated part of a controlling system make it possible to use them in automatic control of industrial processes where direct manual control is impossible, not only because of environmental risks to human beings but also because of otherwise highly ineficient, wasteful and unreliable plant operations and the several economic losses resulting therefrom. Used in operations such as production planning, shop loading, inventory control, etc., computers have an important role in maximising production and effcient utilisation of a developing country's precious resources. Their high speed information processing capability, their ease of handling a large number of variables normally beyond the endurance of manual computation and their reliability in data output are powerful tools for economic planning, and speedy decisionmaking on which national development critically depends.

A characteristic of the computer manufacturing industry is its catalytic role in the economy of any country. This is evident from what has happened in developed countries, like the US, Germany and Japan. The computer industry sustains the growth of many supporting industries like semoconductors, integrated circuits, core and other memories, peripherals and several ancilliary industries in the small scale sector.

It was clear to those who observed the initial development that unless a foundation was laid for the indigenous design and manufacture of computers, the Indian market would be at the mercy of foreign concerns waiting to exploit the opportunities that would fetch them exorbitant profits through sale of discarded machines which they could otherwise only scrap. It is this early realisation that helped the country launch its efforts for an indigenous computer industry and be able to attempt to withstand aggressive market invasion by the foreign computer companies.

'aken with the prevaling opinion that ligh technology products like computors must be imported for fear that heir quality would be beyond Indian manufacturers, it was not surprising hat ECIL had a tough battle on its nands. However, there were many arguments, justifying the need for self-reliance in computer designed and manufacture. Areas such as defence, nuclear echnology and so on can be served only by such a national effort in view of the obvious reluctance on the part of the advanced countries to share their technology with the growing nations. Even countries such as the UK, France, Germany and other nations of Europe, with all their technological progress, have felt the need to have an independent computer industry of their own. Where necessary, they pooled their resources through mergers and associations of their several companies and this had the unstinted support of their governments. Even today, such government-f nded backing contin es for large systems.

The vital significance of the computer industry, especially in the context of defence, and the need to base this industry on self-reliance is under-scored by the vast flow of US Government funds to IBM though defence contracts. Viewed against this background, the need for India to be self-reliant in computer technology was, and continues to be evident. Earlier, ECIL concentrated its efforts in optimising the operations of capital plants using process control computers and real-time systems. Over the last few years, ECIL has installed about 100 systems, of which 56 are scientific systems and 22 are real time systems. ECIL has undertaken several custom-tailored assignments such as Automatic Message Switching Systems for the Air Force, Ammonia Plant Control System for the Gujrat State Fertilizer Company, and Crime Detection Systems for the Police. The data processing applications, which it is promoting, are primarily to improve management decision-making in various areas such as inventory control, linear programming and production planning. The ultimate success of a computer system lies not only in the reliability of its hardware or its elaborate software, but also in its intelligent use. The usage has to be appropriate in the Indian context.

Of the total number of computers in India today, 154 are IBM machines and 100 are ECIL machines. As many as 21 Data Processing System have been supplied and commissioned by ECIL, of which 18 are the TDC-32 variety. Whereas, in the initial stages, ECIL systems did have some teething troubles, reference to the availability of the TDC-312 systems today indicates that the average monthly availability is better than 95 percent. This is suffcient proof that commercial data processing systems of ECIL have come of age. ECIL will commence marketing its TDC-316 systems for data processing purposes from April 1979 and its Midi Computer Systems based on TDC-332 would be available a year later.

Science and Technology

Solar Heated Water for Hotel Guests

The abundantly available energy from the sun seems to be the surest and the least costly soarce of energy in the long run for countries like India. Being pollution free, it is the most suited as well, from the point of view of ecology. Research work has been going on in solar collector development, solar heating, cooling and refrigeration, solar water pumps and solar power generation. India has achieved considerable success in developing solar water heating system.

A solar water heating plant has been installed at the Qutab Hotel of the India Tourism Development Corporation, in New Delhi. The Department of Science and Technology has sponsored it as a national demonstration project for solar heating facility for water in hotels. Bharat Heavy Electricals Ltd. (BHEL) have executed the project with the objective of impressing upon the user of its viability, based on long term and short term performance data, techno-economic study and design modifications required for future installations It will help create as awareness among people that the use of solar energy could conserve conventionel energy sources.

The system is coupled to the existing conventional water heating installation at the hotel. 250 flat plate solar collectors, having an area of one square meter each have been mounted on the roof. These collectors are suitable for heating water from 69°C to 95°C. While the collectors extract the solar energy from the sun, the hot water in these plates gots heated up which is connected to a thermal insulated after reservoir. This forms a closed circuit with demineralised hot water, temperature depending on the solar heat collected from the sun.

A heat exchanger is provided in the hot water reservoir with a separate pump and piping connected to the hotel rooms through the oil-fired hot water boiler. Whenever the temperature falls below the specified level the boiler starts automatically, ensuring pre-determined temperature of hot water.

This is a 'retrofit system' designed

to facilitate easy integration with the existing hot water arrangement with minimum modifications and interference. The major objective is to conserve conventional energy consumption. This arrangement is likely, to effect a saving of 45 per cent in the consumption of conventional energy.

Besides the large size water heating system, BHEL has developed solar water heaters of 140 to 200 litres capacity for domestic use.

Medium size forced convective water heating system has also been developed. This has applications in guest houses, small size hotels and hospitals where water without contamination can be heated with solar energy. These systems consist of 10 to 50 square meters of collector area with a closed cycle arrangement for transfer of thermal energy from collectors to insulated water reservoir.

Solar energy water heating systems are ideally suited for hotels, hospitals, forest lodges and other establishments in remote areas. Initially the saving in conventional energy may be small but this could make a valuable start for future by creating a general awareness for the use of easily available solar energy.

New Radio Receiver Know-How

The application know-how for a new radio circuit using BEL-700 a new IC developed and manufactured by the Bharat Electronics Limited (BEL) was released in New Delhi recently.

The IC will particularly help the small scale radio industry to come up on the same footing as the industry in the other parts of the world. The introduction of the IC-BEL 700 will not only simplify the manufacture of radio receivers but would also improve quality of the radios.

Out of an annual production of 4.5 million radio sets, the small scale industry accounts for almost 2 million sets-majority of these units being in and around Delhi. Bharat Electronics has always given priority to the needs of the small scale industry.

This new IC called BEL 700 replaces 6 discrete transistors and associated passive components. It is an integrated AM/FM radio receiver circuit which provides both Amplitude Modulated (AM) and Frequency Modulated (FM) receiver function on a single chip. It will simplify manufacture of radio sets.

BEL 700 will facilitate production of FM sets also. AIR has already introduced FM broadcasting at Madras and has plans to set up FM stations at Bombay, Calcutta and Delhi in the near future.

Improved Strain for Plantations

Regional Research Laboratory, Jorhat (RRLJ) has developed a new strain of Java citronella (CYMOBOPOGON WINTERIANUS. Jowit) by chemical mutagenesis. Designated as RRL JOR 3-1970, this strain gives 30-35 percent higher leaf yield than the "Jorhat Strain" which was released for commercial cultivation in North Eastern India in 1969.

It can be recalled that Java citronella was introduced into North Eastern India by RRLJ in 1965. Since then extensive (Research and Development) work on this plant was carried out at RRL, Jorhat. In the first phase covering a period of 4 years from 1965 to 1968, studies relating to the influence of various factors on the yield of leaf and quality of oil under the agro-climatic conditions of North Eastern India and the selection of the strain with high yield of leaf and oil of desirable quality were made. Based on genetic variability, particularly in the tillering capacity of the plant, a new strain designated as "Jorhat strain" was selected and further studied in a R and D trial for two seasons. This strain yielded 12.5 tonnes of fresh leaves with an average oil yield of 1.30 percent containing 40.4 percent citronella, 28.5 percent geraniol and 14.9 percent citronellal plus geranyl acetate. The strain and the technical know-how was made available widely for commercial exploitation in 1969. By the end of 1975, "the Jorhat strain" occupied as much as 2544 hactares of commercial plantation in the North Eastern Region.

Work was taken up at RRLJ in 1970 for further improvement of the Jorhat strain by chemical mutagenesis. This study resulted in the development of this new strain designated as 'RRLJOR-3-1970'. Extensive trials at RRLJ, Sepahijala (Tripura') and Yaongyimsen, Nagaland over a period of three years established the superiority for RRLJOR-3-1970 over the 'Jorhat strain' in a number of aspects. 'RRLJOR 3-1970' not only yields more, (about 37 percent) herbs than 'Jorhat strain' but also the herbs are richer (about 10 percent) in oil content. The oil obtained from the new strain also contains more citronellal (46.2 percent) than that obtained from 'Jorhat strain' (40.4 percent). The yield components such as plant height, number of tillers, number of leaves, length and width of leaves are invariably found to be a higher order in the case of 'RRLJOR-3-1970' than that of 'Jorhat strain'.

According to RRLJ, the Wanchoo tribes of Tirap district of Arunachal Pradesh have been entered into the field of aroma chemicals by undertaking large scale cultivation of essential oil bearing plants.

The villagers of Senua in Tirap district due to the initiation by RRLJ had taken up commercial cultivation of Solanum Khasianum., the berries of which yields solasodine, a starting material for various steroidal products. The project was a success. About 24 tribal families participated in that project and the produce fetched the villagers an income to the tune of Rs. 27,000. However, as a sustained market for Solanum Khasianum is yet to be established, the Laboratory advised the villagers to take up the cultivation of essential oil bearings plants such as Java citronella and lemon grass for which there is a great demand in the country. The successful cultivation of Solanum Khasianum has fully convinced the villagers that cultivation of economic plants would be more profitable than their conventional cultivation. So, more Wanchoo families came forward to participate in this venture. Uptil now sixty families have taken up commercial cultivation of Java citronella and lemon grass and already 62 acres (50 acres under Java citronella and 12 acres under lemon grass) have been covered with these grasses. The Laboratory's sub-station at Senua is providing the necessary planting material and technical advice. The Dpartment of Agriculture is providing neessary monetary incentive.

The Arunachal Governments Agriculture Department would purchase the gases from the tribal growers at reasonable price and thus a sustained market for the produce of the villagers is assured. The Department has already installed a 400 kg distillation still with the advice of the RRLJ.

Enlarging the Flow of Credit to Small Scale Industries

Based on the recommendations made by the working group on small-scale industries with special reference to District Industries Centres constituted by the Government of India, the Reserve Bank has issued to commercial banksd etailed guidelines indicating the specific areas of operation and the main courses of action to be adopted by banks, with a view to enlarging the flow of credit to them.

The small-scale industries cover three broad categories, namely, (*i*) artisans and village/cottage industries, (*ii*) small industries in the tiny sector, and (*iii*) larger small-scale industries. The relevant guidelines for lending to these three categories are explained here.

Artisans (irrespective of location) or units engaged in small industrial activities (manufacturing, processing, preservation and servicing) in villages and small towns with a population not exceeding 50,000, often involving utilisation of locally available natural resources and/or human skills, are to be eligible for loans from banks, on specially favourable terms.

The maximum total credit requirements of an individual artisan or a village or cottage unit are put at Rs. 25,000. Credit upto this amount should be sanctioned as a composite term loan for purchase of machinery and equipment or working capital or both. While sanctioning loans, the banks should assess the actual requirements of borrower in a given period liberally and add 10 to 20 percent in the original sanction itself, to be disbursed when required in any unforeseen contingecy due to operational bottlenecks or for some essential consumption requirements.

Loans for consumption purposes in individual cases should not exceed Rs. 75 for general consumption or funerals, births, etc., or certain religious ceremonies, Rs. 100 for educational needs, and Rs. 250 for medical expenses or marriage ceremonies. The total consumption loans for two or more purposes should not exceed Rs. 500 per borrower

The loans sanctioned should be reviewed at the end of each year in order to assess whether the working capital requirement of the borrower has increased either as a result of increased level of operations or increased cost. The loans sanctioned may be enhanced wherever justified. The review should also be used to verify the feasibility of the original repayment schedule and for rephasing it if necessary.

Repayment should be spread over seven to ten years or even more; it has to be not less than seven years in any case The borrower should be clearly informed about the repayment schedule at the time of grant of loans. It should be so drawn up that the instalment amounts repayable are not normally more than one per cent of the principal per month

Actual repayment of principal and payment of interest should commence only after 18 months from the date of disbursement of loan. It could be reduced upto 12 months for artisans/ other small units who are already reasonably well established and who are expected to have sufficient viability to commernce repayments earlier.

No margin or collateral security or guarantee should be insisted upon. The guarantee cover for loans of not less than seven years is upto 90 percent. The procedure for making claim payments has been made automatic for loans upto Rs. 25,000. For composite term loans upto Ks. 25,000, appropriate term loan agreements can be obtained from borrowers, with a repayment period of not less than seven years,to

become eligible for refinance from the Industrial Development Bank of India (IDBI) and for guarantee cover under the Credit Guarantee Scheme.

The maximum rate of interest on composite loans should be 9 1/2 percent in specified backward districts and 11 percent in other areas, excluding loans granted under the Differential Rate of Interest Scheme. These rates are applicable irrespective of whether or not the financing bank avails of refinance from IDBI under the Automatic Refinance Scheme.

The 'tiny' sector covers industrial units located in villages and small towns having a population below 50,000 with original investment in equipment and machinery not exceeding Rs. 100,000.

The rate of interest on term loans, for not less than three years, should not exceed 9 1/2 percent for such units in specified backward districts and 11 percent in other areas irrespective of whether or not IDBI refinance is availed of. These loans are normally eligible for refinance from IDBI. The rate of interest on working capital credit limits upto Rs. 100,000 should not exceed 12 1/2 percent. Small banks with demand and time liabilities of less than Rs. 250 million may, however, charge interest upto 13 1/2 percent.

Whether it is an artisan or a village/cottage industry unit or a 'tiny' sector unit, no penal interest should be charged for any loan. However, immediately on occurrence of loan repayment default, the concerned branch should seek the cooperation of the DIC to restore the account to health or, where this is not possible, take direct steps for recovery. No further charges should be levied by a bank except by way of reimbursement of reasonable out-of-pocket expenses incurred by it.

To ensure timely sanction of credit; proposals upto Rs. 100,000 should be disposed of by banks within 30 days. No application is to be rejected on flimsy grounds. Rejection of applications should be at a level higher than the Branch Manager. Once a proper appraisal has been submitted by DIC, no bank should reduce the credit limit without giving the DIC the reasons therefor.

Managers of branches should be vested with discretionary powers to sanction proposals upto Rs. 25,000 without reference to any higher authority. If this is not possible for any bank, suitable administrative machinery can be set up at the district level to which a reference may be made by the Managers of the concerned banks in the district.

For advances above Rs. 25,000 and upto Rs. 100,000 the appraisal should be taken up simultaneously at both the DIC and the bank, or State Financial Corporation (SFC) where it is involved. The DIC should send to the bank (or SFC) the loan application in duplicate to together with the assessment by the Credit Manager based on his personal discussion with the borrower. The Credit Manager of the DIC may also ascertain the views of Manager of the branch (or SFC) during the appraisal stage. The necessity of a bank referring the appraisal to Small Industries Service Institutes or technical consultancy organisations or outside consultants may be avoided. Any proposal not accepted by a bank or SFC should be returned to the DIC with specific reasons for non-acceptance. The DICs will seek to rectify the defects or deficiencies so as to make it eligible.

All loan proposals need not necessarily be routed through DICs. In fact, the Branch Managers should continue to entertain proposals directly. Regular meetings and discussions should be held between the DIC officers and the banks and SFCs represented in the districts, as also the set of representatives from the States' Industries Departments, at least in the initial period of six months to one year.

The larger small-scale industries include units other than artisans, village and cottage industries and small-scale industries in the tiny sector.

Banks can give either term loans (for purchase of machinery and equipment) or working capital loans or both. There should be no delay in sanctioning working capital to a unit which has obtained term finance from an SFC. Credit limits should be sanctioned at the outset for meeting the entire working capital requirements. After the units go into operation, further credit may be extended to meet temporary additional requirement without reference to the controlling authority. Banks may delegate authority to their branches to exceed the limits sanctioned by a certain percentage in cases of need.

The rate of interest on term loans of not less than three years should not exceed 9 1/2 percent for loans made to units in specified backward districts (if eligible for refinance from IDBI) and 11 percent for loans made to units in other areas, irrespective of whether or not any refinance is availed of from IDBI.

No penal rate should be applied in a routine manner for working capital credit limits exceeding Rs. 100,000. It should be used only as a deterrent in extreme cases of financial indiscipline or wilful default. Decision to charge

penal rate should be taken only at the controlling office (regional or zonal) and that too, if such a course of action is necessary to discipline the borrower. The penal rate should, however, apply only to the amount of default or irregularity and not to total outstanding. No further charges should be levied except by way of reimbursement of out-of-pocket expenses.

The Credit Managers deputed by banks to the District Industries Centres should provide all guidance, assistance and support required by entrepreneurs in obtaining the right type of credit in required amounts at the proper time from banks and financial institutions. They should also ensure a smooth flow of credit to all viable schemes in the districts by keeping a close liaison with all banks/financial institutions in the districts. The Credit Managers, however, only recommend the credit proposals after due appraisal to the concerned credit institutions. They do not have any sanctioning authority or powers. Nor do they take up the work or responsibility for recovery of loans. As the Credit Managers forward loan proposals after a careful appraisal, the entreprenuers should not be asked to furnish the same particulars all over again, by the bank.

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International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
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Leipzig Spring Fair, Leipzig (GDR)	March 9—16, 1980

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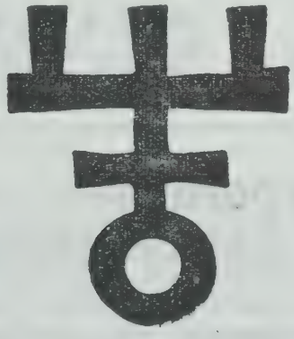

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economic and commercial news

C.F.T.R.I.

News Highlights

India's Participation in Baghdad Fair

India's participation in the 16th Baghdad International Fair, which was held during the month, was a great success. The India pavilion at the fair highlighted Indian capabilities in undertaking turnkey projects and civil construction projects. It may be added that the total value of projects awarded to Indian companies during the last two years amount to about Iraqi Dinars 130 million.

Indo-Bangladesh Trade Agreement Reviewed

The Trade Agreement between India and Bangladesh which came into force on September 18, 1973 and was renewed in 1976 for a period of 3 years, has now been extended by another year and will remain valid upto September 1980. The trade exchanges between India and Bangladesh are conducted in free foreign exchange.

India's Financial Assistance to Sri Lanka

India would be providing a loan of Rs. 100

(*Contd. on page* 2)

Export Performance and Potential

Indo-Iraqi Accard on Joint Ventures

India and Iraq have expanded areas of mutual cooperation and will jointly undertake designing and execution of civil turnkey projects in the two countries as well as joint ventures in third countries.

An agreement of cooperation was signed between the National Projects Construction Corporation (NPCC), a premier construction company in the public sector under the Union Ministry of Energy and the State Construction Contracting Company (SCCCO) of Iraq. The agreement was formally signed by Mr. D. R. Sikka, Chairman and Managing Director, NPCC and Mr. Adnan Ali Al-Qassab, President, SCCCO, during the recent visit of the former to Iraq.

This agreement serves to strengthen existing cooperation between India and Iraq and provides for design and execution of suitable civil turnkey projects in Iraq and India as well as taking up joint ventures in third countries on mutually acceptable terms and conditions for individual projects.

The two companies shall meet as often as possible to decide on issues of mutual interests with a view to strengthening the cooperation.

The agreement shall be within the framework of the protocol provisions under the Joint Indo-Iraq Commission. It is expected to initiate intensive deliberations on joint venutres for construction of projects like power stations, bridges, roads, water supply sewerage schemes, industrial structures and other civil works.

Besides, Iraq has also agreed to supply 100,000 tonnes of diesel oil and

million to Sri Lanka during the year. This is highest ever Indian loan under the Indian Committee Loan Agreement since 1967. This loan would be utilised mainly for the purchase of buses, chassis and other commercial vehicles and spares, bus body building materials, vehicle and telecommunication equipment, railway equipment and industrial, agricultural etc. plant and machinery.

Aluminium and Copper Output Up

Production of aluminium at 96,376 tonnes has registered a hike of 18 percent during the first five months of current financial year over the output of 81,622 tonnes during the corresponding period last year. Likewise, output of copper wire bars rose to 5662 tonnes from 4426 tonnes and that of copper cathodes to 7172 tonnes from 6219 tonnes during the comparable periods.

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kerosene to India, in addition to the normal supplies of petroleum products being made under the long term agreement with that country. The diesel oil and kerosene, contracted during the recent visit of Petroleum Secretary and Chairman, Indian Oil Corporation to Iraq, will be received during the months of October, November and December. A formal agreement for the supplies of these quantities has been signed with Iraqi National Oil Company. Prelimenary discussions for the supply of crude oil for 1980 were also held during the visit. It is expected that an agreement for supply of crude oil from Iraq to India may be signed during the month.

Stimulating Indo-GDR Economic Cooperation

Inaugurating the India Day Technical Symposium of Indo-GDR Cooperation in Berlin recently, the Union Minister of Industry, Mr. K. Brahmananda Reddy, expressed India's desire to give further stimulus to the development of collaboration between India and the German Democratic Republic (GDR).

The Industry Minister suggested that as a follow-up of these discussions, a high level delegation from the GDR should visit India shortly so that the details and modalities of project cooperation were spelt out for consideration at the next meeting of the Indo-GDR Joint Commission.

The Minister observed that the Technical Symposium was an important step in the direction of giving further stimulus to the development of collaboration between the two countries. Three priority fields had been identified relating to machine tools, textile machinery and civil engineering. These were among the most promising areas of cooperation between India and GDR.

The machine tool industry was one of the most significant achievements of industrial development in India, the Minister remarked. Indian machine tools, including those manufactured by the small scale sector, had entered export markets of developed countries like USA and USSR. The public sector undertaking Hindustan Machine Tools (HMT) had taken up the establishment of machine tool industry in several developing countries. This was an important field of cooperation between India and GDR not only with reference to collaboration in the manufacture of specialised machine tools which India imported but also in the promotion of joint establishment of machine tool industries in developing countries, he added.

The Minister disclosed that in respect of textiles and textiles machinery, India was implementing a large programme for modernisation of the textile industry and the development of the handloom sector to meet the large demand of cheap cloth for the masses. There were detailed discussions between technical delegations of India and GDR. Indian textile machinery manufacturers participated in the Leipzig Fair. Important items of textile machinery both for exports and imports and for manufacturing collaboration were identified.

There was a large potential of exports of textiles to GDR particularly handloom products manufactured by millions of weavers in the rural areas of India. Another major area was the supply of textile machinery components and ancillaries from India to machinery-makers in GDR. Similarly,

GDR components and accessories could be equipped on Indian machinery.

The Minister held that the scope of cooperation in third countries was equally bright. In several of these projects, India could avail of technology services from GDR including sophisticated equipments in areas of its specialisation.

The Minister urged that the Symposium should make a technological identification of projects of cooperation, including projects to be taken up in third countries. Among these could be considered those which were relevant to GDR specialisation and India's priorities, like lignite mining and cement projects. In third countries, the projects of cooperation could be identified on the basis of mutual capabilities relating to machine tools, sugar projects, civil construction, and agro-based complexes.

Dr. Gerhard Weiss, Deputy Chairman of the Council of Ministers of GDR and Co-Chairman of the Indo-GDR Joint Commission presided over the Symposium.

Indo-Indonesian Economic Cooperation

Possibilities of long-term economic collaboration between India and Indonesia were discussed at ministerial level talks held recently in New Delhi. The Indian side was led by Mr. Biju Patnaik, Minister for Steel, Mines and Coal and Mr. Hitendra Desai, Minister for Commerce and Civil Supplies, while the Indonesian team was led by the visiting Indonesian Industries Minister, Mr. A. R. Soehoed.

The talks were held in continuation of a memorandum of understanding signed by India and Indonesia during Mr. Patnaik's visit to that country last March, which related to bilateral collaboration between the two countries in the fields of fertilizers, non-ferrous metals, cement, paper and small industries, including machine tools.

The discussions also related to the possibilities of Indonesia supplying cement, paper, crude palm oil and petroleum crude. The supply of cement refers to Indonesia's offer to buy back of upstage from its fund for the expansion of cement manufacture in India for the increased production of cement envisaged in the Fifth Plan.

Speaking on the occasion, Mr Patnaik reiterated the Indonesian team to actively explore the possibility of supplying petroleum crude to India at the rate of at least 2 million tonnes per year. He stressed the need to promote economic cooperation as a means to achieve collective self-reliance among developing Asian nations. Giving a brief resume of the follow-up on the areas of cooperation identified earlier, he hoped that the proposed pelletisation plant in Banarsia would be cleared soon. He also presented to the Indonesian Minister the feasibility report prepared by India for the expansion of the Padang cement plant.

Mr. Soehoed in his reply referred to the many possibilities of Indo-Indonesian collaboration for economic development of both the countries on the basis of the complementarity of their resources and said that since the first meeting in February last, considerable progress had been made since the negotiations for bilateral economic cooperation in various fields. He assured that his government would consider India's request for supply of crude oil as well as paper and edible oil. He said that though the [illegible] and other items mentioned in the talks was [illegible] to be helpful as well, but Government would consider how best India could be helped. He was also confident that given the [illegible] a long term trade, economic cooperation arrangements between the two countries. He also expressed the hope that [illegible] and Indonesia in developing technical manpower and [illegible] joint trade relations.

Promoting Indo-Moroccan Trade Relations

According to a recently report issued by the Embassy of India, Rabat, India is one of Morocco's major export buyers. In 1977 she emerged as the third importer of Moroccan goods and in 1978 as 11th importer. India's position as purchaser of Moroccan goods was immediately after the EEC countries and the USSR. Among developing countries, India ranked as the most important buyer of Moroccan goods. However, India's exports to Morocco have been negligible.

According to the statistics published by the Government of Morocco, the report adds that in 1978, India imported from Morocco goods worth Dirhams 114 million approximately Rs. 256 million, and exported goods worth Dirhams 16 million approximately Rs. 36 million.

While the value of India's exports to Morocco was comparatively negligible, the coverage of items imported by Morocco was fairly wide. India's exports included coffee, tea, dried onion, raw wool, grinding balls of grinding mills, drawn parts, medicines, jute, hemp, other edible articles, medicines, cotton spare parts, motor spare parts and other engineering goods. India's primary exports from Morocco included rock phosphate, phosphoric acid and lead.

The report says that the performance of Indo-Moroccan economic relations is [illegible] in Morocco for enhancing trade [illegible]

cits, adversely affect the import prospects from India, to some extent, chiefly in respect of consumer goods such as textiles, etc. But, in respect of light and heavy engineering goods, machines, electrical goods, transport equipment and essential items such as tea, coffee, tobacco, etc., there exists possibilities of expanding India's exports to Morocco.

India's main items of export interest include wheat, sugar, tobacco, tea, coffee, wood in the traditional sector and chemical products, irrigation and transport equipment, handtools, plastic goods, iron and steel, engineering items in the non-traditional sector.

The report has pointed out that India can enter into joint collaboration programme in setting up railway lines and construction and oil refinery projects. India can also supply following equipment and machinery for the projects and industries in Morocco: construction equipment and machinery, electrical equipment and machinery, power-driven pumps, agricultural machinery including tractors, irrigation equipment, textile, sugar mills and cement machinery, transport equipment including railway wagons, earthmoving equipment and other mining equipment and hospital and scientific equipment.

As a result of India's participation in the Casablanca International Trade Fair, a number of Moroccan importers have evinced interest in the import of spices, sports goods, tea, coffee, tobacco, handtools, engineering items, etc. In addition, a local pulp manfacturing firm has expressed interest in the import of caustic soda, sulphate chloride etc. A few importers have expressed repeated desire in importing diesel engines and other irrigation equipments, the report states.

Growing Indo-PDRY Commercial Relations

According to a commercial report issued by the Embassy of India, Aden recently, a contract has been signed for the first time between the Tea Trading Corporation of India and the National Company for Foreign Trade, Aden for the supply of 250 tons tea valued at US $4,62,500. India has thus been able to achieve a breakthrough for the export of Indian tea in PDRY (People's Democratic Republic of Yemen). So far Ceylonese tea and to some extent Chinese tea held monopoly in that country.

The Chief Marketing Manager of the State Trading Corporation of India visited Aden recently to explore the possibilities of exporting rice and spices to that country. He had discussions regarding the matter with the National Company for Foreign Trade and National Chamber of Commerce and Industry, Aden.

There is a possibility of India's making a breakthrough in meat export to that country. The Managing Director of M/s. Ahmed Oomer Export Ltd., of Bombay visited Aden recently to participate in a tender for supply of large quantity of meat and meat products to that country during the year 1980 amounting to millions of rupees. For this purpose meetings were held with the Ministry of Trade and Supplies, General Managers of the Meat Marketing Corporation, National Company for Foreign Trade and other concerned officers of the PDRY Government, interested to import meat and meat products.

An agreement was signed in Delhi for refining 1,00,000 tons of crude oil per month. In this connection three officials of Indian Oil had visited Aden recently.

Higher Exports of Electronic Goods

According to the annual report of the Department of Electronics for 1978-79, the estimated value of exports rose to Rs. 395.7 million in 1978 from Rs. 368.7 million in 1977. The items of export include radio receivers, record players, tape recorders, PA systems, stereos, calculators, computer software, a wide range of instruments and components, telecommunication equipment and defence items like radars.

The sectorwise break-up of electronics exports during 1977 and 1978 is given below:

(Rs. in million)

Sl. No.	*Sector*	1977 *(Estimates)*	1978 *(Estimates)*
1.	Consumer electronics	82.5	69.8
2.	Test and measuring instruments	5.1	7.5
3.	Medical electronics	0.3	0.2
4.	Industrial electronics and process control	3.4	8.7
5.	Computers	7.6	0.4
6.	Calculators	1.1	0.7
7.	Aerospace and defence	109.7	116.9
8.	Communications	38.0	21.3
9.	Components	54.9	64.0
10.	Computer software	25.0	30.0
11.	SEEPZ	41.1	55.5
12.	Kandla Free Trade Zone	—	7.7
13.	Bonded factories	—	13.0
	Total	368.7	395.7

The goods exported from the Santacruz

Electronics Export Processing Zone (SEEPZ) during the year 1978 were valued at Rs. 55.5 million as compared to Rs. 41.1 million during 1977. Some of the items which are being produced and exported from the Zone are x-ray equipment, amplifiers, computer sub-assemblies, electronic watches, integrated circuits, diodes, power devices, metal film and wire-wound resistors, mica and ceramic capacitors, loudspeakers and ferrite magnetic recording heads. Two units in the Zone are exporting data of seismograms pertaining to oil exploration in digital forma. after processing from analog format and pre-recorded video cassettes/ tapes of Indian films, music, dances etc. During the year under review, 16 new proposals were received out of which 8 were approved. As on 15 February 1979, the position of licences/approvals in the Zone is as under : (i) Number of applications approved for setting up of units in the zone 89; (ii) Number of cases whose letter of intent/approval has been cancelled/ withdrawn 47; and (iii) Number of net approved applications 42.

Three new projects with foreign equity ranging from 92.4 percent to 96 percent have been approved during the year for manufacture of integrated circuits, computer software and consumer items such as colour and black and white TV receiver, two-in-ones, etc. A concession to the units in the Zone wa given by way of abolition of service charge on imports (from 0.5 percent of c.i.f. value) and reduction of service charge on exports (from one percent of f.o.b. value) as under: (i) upto Rs. 0.30 million—1 percent of f.o.b. value; (ii) above Rs. 0.30 million and upto Rs. 0.50 million—0.75percent of f.o.b. value; (iii) above Rs. 0.50 million and upto Rs. 10 million—0.50 percent of f.o.b. value; (iv) above Rs.10 million—0.25 percent of f.o.b. value.

Now the REP licences and other benefits to the Domestic Tariff Area (DTA) units for supply of goods to the units in the Zone are distributed directly by the Zone administration avoiding considerable delay and hardship on the part of the DTA units.

The Union Ministry of Commerce, Civil Supplies and Cooperation set up in May, 1978 a high level Committee on Electronics Exports under the chairmanship of the Chairman, Electronics Commission with wide ranging terms of reference, to go in depth into the current status regarding existing capacity, technology gaps, export potential abroad and to recommend measures such as fiscal incentives, expeditious import for export-oriented production, feedback information on exports etc. The Committee submitted its report in October, 1978. It has suggested the following export targets for 1982 and a number of measures for promoting and increasing electronics exports.

(Rs. in million)

Sl. No.	*Sector*	*Value*
1.	Consumer electronics	600
2.	Data processing control and industrial electronics	200
3.	Test and measuring instrument	50
4.	Professional equipment	500
5.	Components	250
6.	Equipment and systems software	100
7.	SEEPZ and free trade zones	500
	Total	2,2000

Export Potential of Industrial Castings in USA, Canada and UK

The Engineering Export Promotion Council (EEPC) recently sponsored one man. sales team to conduct an effective market survey for industrial castings in USA, Canada and U.K. The team visited Philadelphia, Chicago, Los Angeles, San Francisco, New York, Montreal and London.

It is reported that ferrous castings form a very important and integral part of most of the durable products. These castings are produced in shapes and sizes of requirement of various combinations of alloys which depend upon the particular use of the industry. In most of the cases, these castings undergo the process of machining which converts them into a component to be used in the finished product. The castings can be used in various industries and they are mainly used in machine tools and accessories, heavy machinery for processing industries like rubber, plastic, textile, steel, chemical mineral etc. tautomatic industry and railway and heavy earthmoving equipment industry.

The scope of industrial grey iron castings is rather wide but the scope of study was confined to heavy labour intensive industrial grey iron castings.

As stated above, the scope of study included 3 countries viz., UK., USA, and Canada. All these three countries enjoy very high living standards in the world which account for substantial import and export business. As far as foreign trade goes, these countries form respectively fifth, first and seventh place in the world. They are also amongst the most industrialized countries of the world; but out of the total lot, the use of castings in USA is the maximum. All the three countries, are importing as well as exporting castings and this trend of import is going to continue in times to come with an upward trend. Increasing labour cost, added ecological/pollution obligations are the main causes owing to which these countries are looking out

for good and reliable sources to meet with their huge requirements. The present day trend is to either close down labour-intensive foundries or to switch over to modern means of production and high value items in these countries. The report says that this in itself is a boon in disguise to countries like India where we are still favourably placed.

A casting buyer is invariably conservative by nature but the worsening conditions at home are creating the necessity to explore the avenues for good quality castings and as such the basic competition is from whatever sources are available at home and neighbouring countries, USA, being the major importer of castings from Canada UK, West Germany, Japan, Korea, Spain and Italy. Indian share so far is very small, but the climate is ripe when a planned strategy should be launched to exploit favourable conditions.

The castings are normally required to be manufactured as per the ruling specifications in these countries and as a matter of practice, when enquiries are floated, full technical details are made available. It is always desirable to adhere to the standards required by them rather than requesting for equivalent standards.

Only an attempt can be made here to give rough pricing indications as there is such a vast variation in the prices for the basic reason of variation in the type and nature of castings. On one hand, the castings could be simple without much of core work and on the other it could be large with substantial core work and number of locations which required to be machined. But even then for purposes of broad guidelines if it is said that the prices of industrial grey iron castings vary from 20 cents a pound to 48 cents a pound (US units), it would be termed as good approximation. Buyers normally insist on c.f./c.i.f. price as then it becomes easier for them to compare various alternative sources.

The buyers normally insist for strict adherence to the quality standards laid while placing orders and prefer inspection agencies service in the true sense. At times they insist on inspection by private supervisors also. As a matter of policy, this should be accepted by the prospective Indian suppliers and an all-out effort should be made to adhere to the quality standards.

Instead of entering into a statistical jugglery, if it is said that the Indian exports of industrial grey iron castings are nil, it will not be an exaggeration. India is no doubt being reckoned as a major supplier of public utility and municipal castings but with the know-how, skill and reigning labour cost in the country, it would be in the fitness of things that an all-out effort is made to make a break-through in this area. Attempts have been made in the past also with little success. The market is unbelievably huge and when countries like Spain and Korea could establish themselves as good suppliers, India can also do.

The report has cautioned against certain inhiting factors such as long delays, deterioration in quality, failure to execute the order, non-payment of commission to the middlemen or agents, lazy attitude towards communication and over trading and over booking of orders.

The report has made a number of suggestions for increasing India's share and they run as follows :—

(i) The efforts being made by Export Promo ion Council, Trade Development Authority and Indian missions abroad are really praiseworthy. Only the capable Indian manufacturers and suppliers should be exposed to this huge market. This would eliminate the embarrassement which an Indian businessman has to face while contacting the prospective buyers in these countries.

(ii) The system of collecting and compiling of details of importers should be made more close and specific so that a prospective importer of manhole covers or forgings is not categorised under the head of 'Industrial Grey Iron Castings'. The US companies change their business so often. The Indian missions or offices in foreign countries can play this crucial role of updating and reviewing the information available regularly.

(iii) Catalogues and printed matter being used by the Indian suppliers are of rather poor standard from the point of view of their presentation and texture. A systematic study of the various ways being used by other countries at present and then to evove a suitable pattern which could form a guideline for the Indian exporters, may be initiated. Catalogue with necessary text and good photographs of manufacturing facilities and the various types of castings being manufactured in India giving their broad specifications as weight, size and grade and end-use would be the ideal one.

(iv) It should be made a thumb-rule that on receipt of an inquiry, it should be immediately replied either by telex or cable so that the buyer is not kept in dark. The communication gap is so wide that at times the buyer just avoids to enter into a dialogue.

(v) There is a common feeling amongst various middlemen, especially in USA that the Indian business-men have a tendency to by-pass the middlemen having contacted the buyer once through these middle-men and not to

remit the commission to them in subsequent supplies. A number of companies in USA always route their supplies through the middle-man, although there are others who prefer to buy the products from the manufacturers directly. After having established a contact, the contract should be honoured and the middle-men paid due commission as decided upon.

(vi) It is a general tendency among Indian exporters to book orders for either more than the manufacturing capacities or book orders for certain other items which are not being manufactured by the manufacturer-exporter. They try to locate suppliers and fulfil the commitments. This type of arrangement normally backfires. On one hand, they cannot honour the contract and on the other, there are long delays. The requirements of buyers are normally huge which is an attraction in itself for the exporter to take or accept large orders but this should not be done.

(vii) The statistical systems in these advanced countries are very up-to-date and there are a number of publications like 'Blue Book', 'Thomas Register', 'Importers' Directory etc., which give information pertaining to the manufacturers and importers. But it has been observed that by the time this information is published, quite a part of it becomes obsolete. Thus the exporters should be cautious while making use of this information.

One of the best systems would be to scan the Import Bulletin being published by Journal of Commerce in USA and similar publications in other countries wherein the commodity-wise information regarding the name of the commodity, country of origin and the name of the importer is given. This information should be compiled and cross-checked for further details which would give correct information. For contacting such persons, the best media is to arrange exhibitions and shows and the advertising media. The current trend of participating in various exhibitions being organised in these countries by the Indian missions abroad is really praiseworthy and is a step in the right direction.

USA promises the largest market and then comes Canada and UK. The basic difference between the importer from UK as compared to USA and Canada is that the importer from UK would invariably prefer to deal with the manufacturer-exporter directly.

In conclusion the report pinpoints the fact that the market is huge and outlook for India is very bright. What needs to be done is detailed planning and then its implementation in a controlled manner.

Industrial Growth and Diversification

SAIL's Ingot Steel Output Up

Production of ingot steel in the integrated steel plants of the Steel Authority of India (SAIL) registered an increase of about 6 percent during the month of September, 1979, comapred to production in the corresponding month last year.

Ingot production was 506,000 tonnes as against 476,000 tonnes during September 1978. Production of saleable pig iron in September in the SAIL plants, at 93,000 tonnes, was the highest in any month during the current financial year, which is about 22,000 tonnes more than in August, 1979. This has been about 28,500 tonnes more than the average monthly pig iron production during the first five months of the current financial year.

However, the production of saleable steel was seriously affected due to acute power shortage. Saleable steel output from SAIL plants was 354,000 tonnes durings September, 1979, as against 401,000 tonnes during the corresponding month last year. The shortfall was primarily due to power.

Despite this, SAIL, had taken measures to reduce exports and by timely imports has made avilable to the economy approximately 8 percent more steel during the first six months of the current financial year as compared to the same period last year. This also takes into account the contribution made by the mini-steel plants.

SAIL is hopeful that the ingot steel production during 1979-80 will be higher than last year.

HEC's Bulk Handling Equipment

The Heavy Engineering Corporation, (HEC), Ranchi has manufactured a rotary wagon tippler for the super thermal power project at Bongaigoan (Assam).

It has a capacity of unloading 10 million tonnes of bulk materials per year. HEC's own design, the tippler was developed over the past few years to keep pace with the introduction of broad-gauge high-sided wagons by Indian Railways so as to ensure haulage of 5500 tonnes per train. The wagons to be handled by the tippler will be as much as 11 metres in length and 3.7 metres in height; but being a universal type the tippler is also capable of handling smaller wagons now in operation.

The rotors of the tippler are 8 metres in diameter. The equipment weighs 120

onnes and requires a total input of 165 HP.

HEC will supply such tipplers to Indian Iron and Steel Company and Bhilai Steel Plant. With this, HEC completes the full range of bulk material handling equipment; it is already supplying stackers, reclaimers, wagon loaders, excavators, screens and wagon marshalling machines.

Production Trends in Non-Ferrous Metals

Output of aluminium and copper has shown a significant upward trend in the first quarter of the current financial year. Official estimates of the trends in quarterly production and availability of non-ferrous metals in general indicate that the supply position this year will be comfortable.

Aluminium production continues to rise at the rate of 19 percent, having gone up to 76,638 tonnes in April-July this year from 64,217 tonnes in the corresponding quarter of 1978. Output of aluminium in July this year has been the highest recorded for any month so far, having crossed the 20,000 tonnes mark. The actual production last month was 20,411 tonnes.

Production trends also indicate substantial improvement in copper supplies this year. Production of copper wire bars has gone up by about 62 percent in April-July this year, having increased to 4,426 tonnes from 2,896 tonnes in the corresponding period last year. Output of copper cathodes has risen by 35 percent, from 4,155 in April-July, 1978 to 5,575 in the first quarter of the current year. The refined copper production during 1979-80 is estimated at 23,000 tonnes compared to 18,628 tonnes in 1978-79. The output of zinc during the year is expected to be around 73,500 tonnes compared to 64,281 tonnes last year.

In view of the growing demand for non-ferrous metals, the gap which remains between the demand and availability, despite the rising domestic production, will be fully covered by the programmed imports. Thus, in respect of aluminium, the canalising agency for imports, the Minerals and Metals Trading Corporation (MMTC) have already contracted for the import of 10,275 tonnes of electrical conductor (EC) grade aluminium and 10,000 tonnes of commercial grade(CG) grade aluminium during June and July this year, out of the total programmed import of 75,000 tonnes for the year.

The highest priority has been accorded, in the strategy for the future growth of the non-ferrous metals, to intensifying exploratory efforts by the Geological Survey of India (GSI) and the Mineral Exploration Corporation (MEC) for copper, lead and zinc ores in all the potential areas, particularly in the Singhbhum belt of Bihar and the Zawar area of Rajasthan. In view of the limited nature of the ore reserves of the metals barring aluminium where the East Coast bauxite deposits have unfolded a vast potential, the emphasis is mainly on the completion and expansion of the existing projects. This would include the completion on schedule of the Malanjkhand copper project, the Rajpura Dariba lead-zinc project as well the expansion of the copper smelters and refineries at Khetri and Ghatsila, exploration of the Baroi lead-zinc deposits in Rajasthan, expansion of the lead smelters at Tundoo in Bihar and Visakhapatnam in Andhra Pradesh and of the Alwaye Zinc Smelter to attain licensed capacity.

A large number of Research and Development (R and D) schemes have also been recently sanctioned involving an outlay of over Rs. 110 million, which would cover mining, beneficiation and smelting in the non-ferrous sector. The major thrust of the R and D policy is to improve efficiency in the mines and the plants as well as to recover precious, valuable and trace metals present in the ores.

Directorate to Prevant Excise Duty Evasion

Union Minister of Finance, Mr. H. N. Bahuguna, disclosed recently that for preventing evasion of excise duty, a Directorate similar to the Directorate of Revenue Intelligence which looks into smuggling cases on customs side, had been set up by the Union Finance Ministry.

The Minister was inaugurating the 23rd meeting of the high-powered Customs and Central Excise Advisory Council which comprises representatives of trade and industry represented by office bearers of important federations and associations as well as individual industrialists.

Various procedural and organisational changes in the Customs and Central Excise Department, the Minister further informed the Council, were under consideration on the basis of the recommendations of the Estimates Committee of Parliament. He also said that Government was giving serious thought to the demand for setting up tribunals for resolving classification disputes relating to customs and central excise cases.

In order to bridge the communication gap between the Customs and Excise Department and the assessees, the Minister said, a Directorate of Publications had been set up so that notifications and circulars affecting the duty rates were made available to trade immediately after issue.

GSI Plans Study of Meteorites

The Geological Survey of India (GSI) will undertake a new research project to

study the composition and geochemistry of meteorites and extra terrestrial materials during its current annual field season.

This involves, analysis of meteorites, tektites, and lunar rocks, which would help determine trace and rare elements in such samples basides throwing considerate light on the origin of planets.

The Central Programming Board of the GSI met recently in Calcutta to finalise its annual programme for the field season, October, 1979-September, 1980.

Improved methods for the analysis of meteorites have been developed at the Central Chemical Laboratory and collaborative investigations for the detailed study of tektites had been undertaken some time back by Petrology Division of the GSI with the Indian Institute of Technology, Kanpur. During the current year, laboratory work on meteorities will be intensified.

Revised Guidelines on Managerial Remuneration

The Central Government had, on November 9, 1978, issued revised Guidelines relating to managerial remuneration under which the ceilings on salaries and perquisites had been brought down substantially. A large number of representations have since been received *inter alia* from Chamber of Commerce and Management Associations pleading that the present package of remuneration has operated rather harshly against the Managing Directors and whole-time Directors of the companies and may well retard the objective of professionalisation of management. The biggest outcry has been against the limits set out regarding hiring of accommodation, specially in metropolitan cities.

The Guidelines in respect of perquisites have accordingly been reviewed and the following liberalisations have been approved :

(a) Unfurnished accommodation could be hired subject to a ceiling of 45 percent of salary for Bombay, 40 percent of salary for Delhi and 35 percent of salary for Calcutta and Madras and 30 percent of salary for other places. (This is inclusive of the 10 percent of the salary payable by Managers themselves).

(b) Expenditure upto a ceiling of 10 percent of salary can be incurred by companies on amenities like gas, electricity, water and furnishings.

(c) For compiling the total monetary value of the perquisites, the company's car with driver would be evaluated as per Income-tax Rules. However, not more than one car will be allowed for both official and personal purposes.

(d) The expenditure on pensionary benefits like provident fund and pension would be subject to a ceiling of 25 percent of salary. Within this ceiling, the contribution towards these two purposes could be adjusted by the companies themselves but contribution to provident fund should not exceed 10 per cent of salary.

(e) For reimbursement of medical expenditure, a bloc of three years would be reckoned and the ceilings would be three months salary within each bloc.

(f) Expenditure on providing a telephone at the residence would no longer be treated as a perquisite but not more than one telephone can be provided.

The over-all maximum ceilings of Rs. 60,000 p.a. for perquisites will remain unchanged except in Bombay where the overall ceiling would be Rs. 62,700.

These clarifications/modifications to the revised Guidelines are effective from November 9, 1978, the date when the revised Guidelines came into effect.

Foreign Currency Accounts of Non-resident Indians

The scheme under which Indian nationals and foreign nationals of Indian origin are granted the facility of maintaining foreign currency accounts abroad or of reconversion of foreign exchange surrendered to an authorised dealer on their return to India has since been modified by the Reserve Bank as under.

The facility will henceforth be available to all Indians who have returned to India or who return to India for the purpose of exploring possibilities of settling down in India instead of being limited to qualified Indians.

The scheme will be made available for a period of five years as against three years. Those who have availed of the three-year facility and wish to have an extension up to five years will on application be granted additional two years for the purpose. Applications for availing of the five-year facility should be made within three months of arrival in India to the Controller, Reserve Bank of India, Foreign Accounts Section, Eros Building, Bombay-400 020.

The Reserve Bank will consider grant of reasonable exchange facilities in deserving cases on compassionate grounds to people who have retuned from abroad bringing foreign exchange through normal banking channels and who have to leave the country for setting abroad, due to death of spouse, unsuitability of climatic conditions,

etc., even if the period after return to India has exceeded five years.

Persons holding foreign currency balances which represent their earnings out of employment with any Indian owned organisation are not, however, eligible to avail of the above mentioned facilities, as hitherto.

Outstanding Performance of IDBI

Industrial Development Bank of India's (IDBI) operations scaled new heights during 1978-79, the 15th year of its operations. The year was marked by a sharp growth in the Bank's lending activities and for the first time, IDBI's annual sanctions crossed Rs. 10,000 million mark. Its overall sanctions, including guarantees, aggregated Rs. 11,260 million, an increase of 48 percent over the preceding year. Total disbursals for the first time recorded an increase of over Rs. 2000 million and reached Rs. 6800 million.

The assistance going to the small-scale sector increased substantially by 126 percent to Rs. 3100 million. Over 95 percent of the applications sanctioned assistance by IDBI during the year belonged to the small-scale sector. This was made possible by rationalisation and liberalisation of procedures, delegation of powers and by introduction of the automatic refinance scheme with effect from 1st July 1978.

Operations under domestic project finance schemes also recorded impressive growth rates. Sanctions under project finance schemes aggregated Rs. 2830 million in respect of 134 projects comprising Rs. 2560 million by way of loans and Rs. 270 million by way of underwriting and direct subscriptions to share capital. As in the past, IDBI's assistance was mainly directed to high priority projects.

During the year, electricity generation and distribution, cement, chemicals, iron and steel and fertilisers accounted for bulk of the sanctions. Disbursals under project finance schemes increased from Rs. 1690 million to Rs. 2200 million. Sanctions under Soft loan scheme more than doubled from Rs. 460 million to 55 projects in the preceding year to Rs. 1120 million to 98 projects. Disbursals under the soft loan scheme increased from Rs. 100 million in 1977-78 to Rs. 340 million during the year.

A distinguishing feature of the operations during the year was the acceleration in disbursals which was facilitated by IDBI's bridging finance scheme.

Sanctions of refinance assistance aggregated Rs. 4170 million covering 29,233 applications registering a phenomenal growth of 86 percent in terms of amount and 124 percent in terms of number of applications. Sanctions under automatic refinance scheme accounted for 50 percent of the total refinance assistance and 81 percent of the number of applications. Disbursals under finance Scheme, increased by 76 percent from Rs. 1460 million in 1977-78 to Rs. 2560 million in 1978-79.

On the export front too, IDBI broke new grounds. A new scheme namely Overseas Investment Finance Scheme was introduced in March 1979 with a view to giving a boost to exports of capital goods. For the first time it was decided to extend pre-shipment credit to exporters in participation with commercial banks. Total sanctions of export assistance (including guarantees) for the first time crossed Rs. 1000 million and amounted to Rs. 1290 million showing an increase of 32 percent over the preceding year. Besides, IDBI gave approval to 399 proposals involving an outley of about Rs. 66,2060 million for bidding construction and turnkey jobs abroad by Indian exporters.

IDBI's sanctions during the year are expected to catalyse an investment of about Rs. 23,000 million over the next three years and also provide, on completion of these projects, direct employment for about 220,000 persons. Since inception, IDBI sanctioned an aggregate amount of Rs. 42,920 million (including guarantees) to 82,481 applications and these sanctions are estimated to catalyse investment of the order of Rs. 91,000 million and provide direct employment for about 1.2 million persons.

IDBI also liberalised its seed capital scheme. All entrepreneurs who have acquired the necessary technical know-how and have viable projects and need financial assistance, will be able a to avail of assistance under the scheme. With a view to alleviating the suffering caused to entrepreneurs due to national calamities like cyclones, floods, etc., a new facility known as special refinance facility was introduced and assistance of Rs. 12.2 million was extended to 347 units which were affected by floods in West Bengal and cyclone in Andhra Pradesh.

A notable feature of IDBI operations during the year was that of the 247 districts delared as backward by the Planning Commission, IDBI's assistance has now reached as many as 245 districts. Assistance sanctioned to projects in backward districts during the year was as high as Rs. 4060 million.

Organisationally, IDBI has effected some changes of far reaching importance Two Advisory Committees, namely, Small and Village Industries Credit Committee and International Finance Committee were constituted. These Committees, with advisory role, will provide feedback on the working and problems in the respective areas and

help evolve suitable policy framework for increasing the flow of credit to these sectors. A Branch Office was also opened at Simla in Himachal Pradesh. The work relating to sanctions and disbursals was decentralised and powers of the incharges of the Branch and Regional offices have been enhanced.

The full impact of all the liberalisations and new schemes introduced by IDBI is expected to be felt during 1979-80. IDBI's disbursements to industries are expected to grow beyond Rs. 9000 million next year.

Science and Technology

Softening and Upgrading of Jute by Chemicals

A new process of softening the hard rooty portions of jute has been developed in Indian Jute Industries' Research Association (IJIRA), Calcutta using aqueous solutions of certain chemicals. The results on reduction of hard waste as well as upgrading the quality of jute by this chemical softening treatment have shown very a encouraging results in the IJIRA Pilot Mill studies and the process is now under extensive trials in various jute mills. Large scale experiments have been conducted with Commercial grades of W5, W4, W3, and TD3 qualities of jute. It has been observed that compared to the usual softening treatment with JBO emulsions, the cuttings could be reduced by as much as 8 to 12 percent. After softening and piling followed by selective cuttings, the fibres are used in sacking warp hessian warp and in carpet backing batches. No detrimental effects on spinning performance and yarn properties are notices, Experiment are also extended to utilise uncut W5 jute for spinning hessian warp and TD6 jute for sacking weft yarns. The process is extremely economical and utilises chemicals which are readily and indigenously available. Further experiments are under progress to optimise the treatment on-various other batch qualities of jute.

CFTRI's Infestation Control Techniques

Several infestation control techniques have been developed at the Central Food Technological Research Institute (CFTRI), Mysore. These techniques, primarily meant for rural areas, are cheap and effective. CFTRI has been concerned with the development and application of appropriate technology for various post harvest operations like conservation and utilization of the nation's food resources. The methods developed at the Institute will lead to better conservation of foodgrain specially in rural areas, where about 70 percent of the nation's foodgrain production is stored and used.

Some of the important infestation control techniques are fumigation which destroys insect infestation in small scale storages 'pest proofing' of gunny bags by application of suitable insecticidal emulsions and; rodent control measures.

For small scale storage of grains, pulses and seeds (excluding oilseeds) in rural bins and household stores, inexpensive tablets and ampoules, called "Minifume", have been developed. In the Minifume known quantity of a suitable fumigant is absorbed by a cardboard disc which is covered by suitable packaging material to present the escape of the fumigant during storage and handling. Continuous research and field tralis have established the usefulness of "Minifume.' as a convenient, highly effective and economical method of protecting stored grains against insects. "Minifume" reaches every grain and controls the pests effectively. Just one Minifume is enough to treat 100 kg. of foodgrains, and costs 90 paise. After fumigating the grains for seven days in an airtight container, areation of the fumigated commodity must be done for some time. "Minifume" is ideal because it does not in any way taint, discolour or disflavour the commodities treated, and reavas nemhazardous residue after aeration. Seed germination is not hampered.

In case of bagged commodities, fumigation alone will not be enough as the coarsely woven jute bags commonly used for the purpose, are unable to prevent insects from entering them through the weaves. These bags can be made pest-proof for nearly a year by impregnating the fibres of the bags with an emulsion specially formulated by CFTRI. No pest can survive long on a bag treated with the emulsion. Pest proofing does not contaminate grain and in no way efects the bag or reduces its re-sale value. For spraying the emulsion quickly and evenly over the bags, a simple portable machine has been devised which costs about Rs. 7,000/ and can process nearly 400 bags an hour at a cost of only 30 paise per bag.

Inexpensive non-toxic grain protectants have been developed that sharply reduce grain spoilage without harmful effects on man or environment. For example, a specially treated kaolinic clay removes the waxy coating, from the insect surface, so that insects quickly get dried up and die. The activated clay can be used safely for destroying insects in freshly harvested foodgrains by mixing 1 Kg of clay with 100 Kg of grains. There is no health hazard involved.

Milled grains and flour can be protected against insects by adding 0.2 percent of vitaminised tricalcium phosphate. This composition increases

.ood value for man, but shortens the already brief life span of insects.

Among the pests that destroy food in the field and during storage, rodents take the largest tool. Effective techniques have been devised to destory rats, keeping in view their habitat. For instance, a special fumigant formaulation called E-3, developed by CFTRI, when discharged from a plastic bottle or sprayer can destory rats that dwell in burrows. The fumigated burrows are to be plugged with stone and mud to prevent the escape of rats. Any burrow found open next morning is to be treated again with the fumigant and plugged.

For controlling roof rats, the CFTRI has developed techniques to repel them from gunny bags or other storage containers by spraying a high viscosity oil formulation called Durobase-3, and to lure them to poison baits.

CFTRI's field extension service with respect to infestation control techniques form an important bridge between the Institute and the utlimate user. For the benefit of farmers, agricultural marketing organisations and pest-control service firms, 30 pest-proofing machines designed by the Institute have been installed at different centres.

Application of Minifume and other techniques developed by the Institute have been extensively demonstrated in rural areas. In Dharwar District of Karnataka alone, house to house campaign or demonstration was carried out in 145 villages. In Karimnagar District of Andhra Pradesh, demonstrations were arranged at several mandies and 220 persons were imparted training in infestation control techniques. In addition, they have been provided with equipment and chemicals, so that they could start servicing in rural areas as a gainful occupation.

New Standards Published by ISI

Indian Standards Institution (ISI) has published an Indian standard specification for aprons (combing leathers) for gill box used on worsted machinery (IS:8974-1978) which covers gill-box aprons (combing leathers) for use on precombing, finisher and high-speed finisher systems for worsted spinning. The requirements prescribed in this standard are based on the results of extensive testing of the samples of indigenous combing leathers at Central Leather Research Institute (CSIR), Madras.

The ISI has also published an Indian standard specification for material (nylon webbing) for aircraft safety belts (IS : 8947-1978) which covers nylon webbing, dyed or in natural colour, for manufacturing safety belts used by aircraft passengers.

The ISI has also published Indian Standard recommendations for farm cattle housing for arid areas: Part I cattle shed for an average farmer, IS: 8845 (Part I)– 1978 which recommends a layout and constructional requirements of a farm cattle shed in an arid for an average farmer having normally three milch animals with their calves and a pair of bullocks.

India has a vast cattle population which forms the mainstay of our agricultural economy. Despite this, a large majority of animals is inefficient producers of milk and draught power. This large number also militates against selection of quality.

Besides better breeding coupled with selection, feeding and disease control, proper housing is an important feature in raising the productivity of our animals. At present only a small proportion of our cattle is maintained on scientific lines. proper housing which is conducive to good health, comfort and protection from inclement weather, so that the animals may utilize their genetic ability and feed for optimal production, is grossly lacking except at a few organized farms. The adverse effects of the situation among the large numbers of privately maintained animals are specially manifest in the dairy animals. A series of standards is, therefore, being prepared to provide guidelines and help in meeting the requirements of various categories of enterprises.

Another standard published relates to specification for extra low voltage and low voltage spring return non-latch switches for aircraft (IS:8991-1978) which covers the requirements of hand-operated or mechanically-operated switches, spring-loaded to return, for use on aircraft systems of 28 V dc and 115/200 Vac at 400 Hz.

An Indian Standard specification has also been published for area exposure product meter (IS:8902-1978) which covers performance and testing of area exposure product meters intended to measure area exposure product to the patient during medical radiological examinations.

The purpose of routine measurement of area exposure product is to help in achieving an overall reduction in the radiation received by patients undergoing medical radiological examinations.

Provided adequate records are kept, it is possible to compare different examination techniques, to establish a technique giving minimum radiation to a patient, and to ensure maintenance of that technique; in this respect, such measurements have a place of particular importance in training estabilshments.

Still another Standard published by ISI is an Indian Standard Specification

for Farm Drainage Clay Tiles Part I Tiles with Open Joints IS:8967 (Part I)—1978, which covers the requirements and method of tests for clay tiles with open joints for farm drainage purposes.

Farm drainage clay tiles also known as clay pipes are now being extensively used for sub-surface drainage of farms. This standard is intended to assist in production of quality tiles.

The clay tiles used for farm drainage purpose are generally of two types: (a) tiles with open joints, and (b) perforated tiles with collar joints. This standard is issued in two parts. Part I covers tiles with open joints and Part II covers requirements of perforated tiles with collar joints.

All the above standards provide for certification marking of the product manufactured according to the specifications, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Institution.

Augmenting the Availability of Steel

Availability of steel in the economy during 1979-80 is expected to increase by about 20 percent over 1978-79. This would take into account the proposed increased production from the integrated steel plants and electric arc furnaces, and the planned imports. The increase of saleable steel production from the integrated steel plants during 1979-80 is projected at 12.8 percent higher than the actuals of 1978-79, based on the expected improvement in the supply of essential inputs, in view of the steps being taken in this direction. Production of pig iron is anticipated to be higher by about 11 percent in relation to last year.

According to the annul report of the Department of Steel for 1978-79, growth in the economy was reflected last year in the continuing upsurge in the demand for steel. Steel consumption in 1977-78, showed a rise of about 10 percent over consumption in 1976-77. The buoyancy in demand continued during 1978, with consumption of steel on the basis of actual offtake having shown an increase of 15.8 percent over 1977-78. Estimates for 1979-80 suggest a growth rate in demand of the order of 15 to 20 percent.

On the production front, the report mentions a series of problems, relating mainly to inputs, which adversely affected all the six integrated steel plants, including Tata Iron and Steel Company (TISCO). In terms of the quantity and quality of coking coal, the supply situation throughout the year was one of anxiety, both quantitatively and qualitatively, with every 1 percent increase in ash content affecting production to the extent of 2 to 2.5 percent. In quantitative terms, the estimated supply of coking coal during 1978-79 was less than the actual supplies in the preceding year by about 0.9 million tonnes.

The report says that the production loss due to various operational factors, including interruptions in power supply, the unprecedented floods, affecting the integrated plants in the East and industrial relations, during 1978-79 is estimated at 650,000 tonnes. Stating that despite this, ingot output of the six integrated plants was less by about 3 percent compared to 1977-78, the report says that had these adverse factors not been in operation in 1978-79, the actual production would have been considerably more than that of the preceding year. The total availability of steel last year was about 16 percent more than in 1977-78.

During 1979-80, the constraint of coal is likely to get reduced considerably not only because of the expected increase in production of coking coal, but also because these will be supplemented by the full arrival of the contracted one million tonnes import of coking coal, a small part of which arriveel towards the end of the last financial year.

Plan outlay on steel for the year 1979-80 has been fixed at Rs. 6,900 million. The continuing schemes in this sector relate to the ongoing expansion of Bokaro from 1.7 to 4 million tonnes, to be completed by 1980; expansion of Bhilai from the present 2.5 to 4 million tonnes, with the expansion of all the major units except the 7th Blast Furnace scheduled for commissioning by December 1981, modernisation of the hot strip mill at Rourkela and installation of cold rolling and finishing facilities for stainless steel at Salem. As part of the process of modernisation of technology, a scheme for steel making through bottom blown oxygen converter has been approved. Estimated to cost about Rs. 140 million, the scheme is to be taken up shortly, first on an experimental basis at Durgapur.

Setting up of new captive power plants was a major scheme cleared during 1978-79, with construction work scheduled to begin shortly. While the Bokaro Plant is to be augmented by three units of 60 MW each at estimated cost of Rs. 760 million, the project for additional power generation facilities at Durgapur involves the installation of two 60 megawatt sets.

As part of the long-term development strategy in the coming years to meet the anticipated increases in demand at the minimum cost, particular attention is being paid to updating technology as the surest means of securing signi

ficant increases in output from the existing facilities through better utilisation of capacity. Thus steps were initiated during the year to enhance the ingot capacity of Bhilai from 4 million tonnes to 5.5 million tonnes with Soviet assistance. A similar programme of technological improvements has been drawn up for Bokaro to increase the plant's capacity to 5.5 million tonnes, the investment required in such schemes being quite low compared to the investment for similar additional capacity in a green-field site.

Apart from aiming at the speedy completion of expansion and construction of continuing schemes and the modernisation of the existing plants, the main thrust of R and D effort has been on reducing consumption of coking coal to the extent possible, greater use of non-coking coal and the production of new varieties of steel. Conceptual schemes for the modernisation and rehabilitation of Durgapur and Rourkela Steel Plants within the fremework of existing facilities are also being prepared largely relating to quality improvement in the areas of raw materials.

As part of the overall development programme for the enhancement of steel capacity, the feasibility of setting up new port–based export-oriented plants has been under consideration of the Government. Discussions are continuing with a number of countries such as USSR, the Federal Republic of Germany and the United Kingdom on the parameters of the financial and technical collaboration they could offer. In respect of Visakhapatnam, the necessary processing for an investment decision is under way on the first one -million tonne phase of this Indo-Soviet project. The foreign exchange component will be found partly by utilising the Rouble credit. In view of the increasing demand for steel and the shortage of billets experienced by rerollers, billet making facilities and a merchant mill will be installed in the project's first phase itself. The plant would subsequently be developed to reach an annual capacity of 3 million tonnes.

The report also mentions the effort made to explore ways and means to increase the share of developing countries in world steel production through increased international cooperation at the second consultation meeting on steel of the United Nations Industrial Development Organisation (UNIDO) hosted by the Indian Government last January, where it was decided to set up a Working Group under the auspices of UNIDO to go into the question of resource mobilisation for setting up steel plants in the developing world as a total package which would include finance as the most critical input.

The electric arc furnace units, which had been a sick industry showed a vast improvement in performance during the year due to the steps taken by the Government to make it viable, including the liberal hlicy of permitting diversification of their product-mix from mild steel to alloy and special steels and the measures to augment supplies of scrap, which enabled the mini-steel plants to produce over 60 percent more of saleable steel (about 500,000 tonnes more than in 1977-78) during 1978-79 than in the preceding year.

As part of the effort to increase scrap availability, the Metal Scrap Trading Corporation (MSTC) was directed to launch a vigorous programme for the acquisition of old ships for breaking to increase the supply of re-rollable and melting scrap. And the quantity of scrap obtained by breaking up Indian ships was 70,000 tonnes upto January 1979, as compared to over 30,000 tonnes for the whole of 1977-78. Ship breaking has great employment potential and the activity is being dispersed over several ports.

To fully meet the demand for scrap for steel-making on a long-term basis and to maintain prices of indigenous scrap at reasonable levels, steps were initiated to develop processes for the production of sponge iron as an alternative raw material using non-coking coal, of which the country has abundant reserves. The sponge iron plants in Andhra Pradesh and Orissa are steps in this direction.

A strategy has also been worked out and is being pursued to derive mutual advantage from the complementarity of the resources of India and some of the Asian countries. If a cooperative production pattern could be worked out with foreign countries involving export of pellets to countries setting up or having direct reduction steel plants in the Middle East, Indonesia and other Asian countries, so that some of the sponge iron produced in those plants could be imported for use in the electric arc furnaces in India, it would be to the mutual advantage of both the countries and the electric arc furnace industry would be assured of a ready source of raw material to supplement scrap at reasonable rates. □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	Dates
Chilean Annual Trade Fair, Santiago (Chile), FISSA '79	October 25—November 11, 1979
International Furniture Fair, (MEBUL Fair) Brussels (Belgium)	November 8—12, 1979
Indian Exhibition, Dubai	January 15—30, 1980
Indian Exhibition, Manila (Philippines)	February 23—March 2, 1980
Leipzig Spring Fair, Leipzig (GDR)	March 9—16, 1980

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economic and commercial news

News Highlights

India's Participation at SGMA Expo'79

Indian participating firms have booked orders to the tune of over US $ 100,000 at the Sporting Goods Manufacturers Association (SGMA) Expo'79 held in New York recently. Additional orders for another US $ 100 000 are expected to be finalised shortly.

Export Trade in Man-Made Textiles

According to the Silk and Rayon Textiles Export Promotion Council, the export trade in silk and man-made textiles touched an all time high mark with performance in 1978-79 being Rs. 401.10 million and Rs. 417.80 million for both these products-groups respectively. The Council hopes to expand this trade for Rs. 500 million for the former group and Rs. 550 million for the latter during the current financial year.

India's Economic Gains Lauded

The World Bank in its annual report has stated that the fiscal year 1979 is the fourth consecutive year for solid economic growth for India. It has estimated the

(*Contd. on page* 2)

Export Performance and Potential

Promoting Indo-Japan Trade Exchanges

Speaking at the inaugural ceremony of the India Trade Fair in Tokyo recently, the Indian Ambassador to Japan, Mr. Avtar Singh, has remarked that the Japanese manufacturers and importers can make effective use of India's industrial capability and capacity. With Japan's imports expected to go up over 11 percent annually in the next seven to eight years and her entry into over 100 billion-dollar-import-nation-era, Japan would surely be on the look out for more and more products and sources, he held.

The Ambassador added that in the process of industrial restructuring and the drive to reduce energy costs and pollution, Japanese manufacturers were searching for off-shore production facilities in selected products.

The Trade Fair had been jointly organised by the Trade Development Authority and the Japan External Trade Organisation (JETRO) with assistance from the Commonwealth Secretariat. The exhibits covered a wide range including electronic components, auto parts, forgings and castings, bicycle components, hand tools. There was a weekly display of one product specific group each in which 13 Indian firms participated.

The inaugural ceremony was attended by the President of the Japan External Trade Organisation, Mr. Hasashi Murata, leading businessmen, members of the diplomatic corps, senior government officials, representatives of chambers of commerce and trade associations.

The Indian Ambassador held that with India's ability to undertake construction of industrial projects in the field of fertiliser manufacturing, oil refining, petrochemicals, pharmaceuticals, sugar, textile, cement, paper

over-all economic growth of the country at 3-4 percent. The Bank has also commended increase in foodgrains production, growth of industrial output and external payments position. Foodgrains production reached an all time high of more than 126 million tonnes and growth of industrial output is estimated at 7 percent to 8 percent. With growing gross external reserves, foodgrains stock and prudent monetary policy, the country has been able to step up its longterm development efforts thro gh a large utilisation of accumulated reserves primarily for investment purposes, the report adds.

DGTD to be Revamped

With a view to making the Directorate General of Technical Development (DGTD), a dynamic instrument to promote further technological and industrial growth in the country, the Government of India has decided to appoint a committee to undertake a review of its role, functions and organisational structure.

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steel, water treatment and waste treatment plants for environmental and pollution control, irrigation and power generation etc., the country had become more self-reliant in industrial field.

Earlier, speaking at a press conference Mr. Singh said that "Japan was India's largest trading partner after USA, but for Japan Indian exports account for less than one percent. India's liberalisation of imports has resulted in spurts of imports from Japan which rose by 45 percent last year. Japanese imports from India have been fairly static and have mainly covered primary products.

He further added that India had all the favourable factors like low cost labour, production capacity, skilled craftsmanship and appropriate raw matrials. With India's fast developing industrial outlook and production, Japan could safely rely on quality products which India could now offer. He expressed confidence that the Fair will help to bridge the information gap and foster better mutual understanding and more business.

India Participates in Baghdad Fair

India was among 64 countries which participated in the sixteenth Baghdad International Fair held in Baghdad during the month.

Organised by the Trade Fair Authority of India, the Indian pavilion highlighted Indian capabilities in undertaking turnkey industrial and civil construction projects. Over 50 Indian firms participated including project executing and consultancy firms like Engineering Projects (India) Limited, Punjab Chemiplants Ltd., Asia Foundation and Construction Company, and Western Indian Erectors Ltd., which have won contracts in Iraq.

In the last two years, India has entered the field of civil construction in Iraq in a big way and the range of civil construction projects in Iraq undertaken by Indian companies include areas like water and sewerage schemes, project and culverts, silos and construction of factory sites and buildings. The most prestigious project won by India last year was the construction of Council of Ministers building in Baghdad. The total value of projects awarded to Indian companies during the last two years amounts to approximately Iraqi Dinars 130 million. The Indian pavilion fully projected India's capabilities in undertaking a variety of civil construction projects.

India's advance in agriculture and agricultural research, Indian capabilities in civil construction in the agricultural sector and potentials of cooperation between India and Iraq in the agricultural field were also projected through photographic panels and display of agricultural implements and machinery.

The Indian pavilion displayed a wide range of products including tractors, diesel engines, pump sets, HMT advanced machines like milling machines, lathes, grinding machines, drilling machines etc., automobile parts, castor wheels, hand tools, crimping tools, bicycles and parts, transmission belts, laboratory equipment including microscopes, metres, water coolers, plant projection equipment, agricultural ploughs, pesticides and insecticides, shellac, paints and varnishes, plywood and many consumer products besides cotton and silk and rayon fabrics, coir manufacture and tea.

India Day was celebrated on October 2 at India Pavilion. High Iraqi oficials including heads of various State organisations, a cross-section

of Iraqi business community and members of the diplomatic corps and journalists attended the function.

The Fair was inaugurated by Iraq's First Deputy Prime Minister, Mr. Taha Yassin Ramadhan. The theme of this year's Fair was 'International fairs are a meeting place for progress of civilisation'. The Indian Pavilion with its tasteful display and projection of India's industrial and technological progress attracted large crowds and made a good impact on the Iraqi public. The Iraqi businessmen evinced considerable interest and many business enquiries have been generated

Export Orders of Public Units Up

The public sector undertakings under the Union Department of Heavy Industry won export orders worth Rs 80 million during July 1979. Of this, Heavy Engineering Corporation Limited, Ranchi, secured an order for the supply of 50 nos. slag cups to Egyptian Iron and Steel Company, Cairo and for the supply of coke-oven items, steel forgings, steel castings, steel plant equipment etc. to Prommashexport of USSR for a total value of Rs. 71.10 million.

While the value of export orders secured by the public sector enterprises in the period April-July this year was Rs. 537.60 million, lower than the orders booked by them, of the value of Rs. 744.70 million during the corresponding period last year, the value of export orders in hand as on July 31, 1979 amounted to Rs. 9238.30 million which is about 20 percent more than the export orders of Rs. 7673.50 million in hand as on July 31, 1978. The two undertakings, viz., M/s. Engineering Projects (India) Limited and Bharat Heavy Electricals Limited account for about 90 percent of the total export orders in hand as on July 31, 1979.

There has been a substantial improvement in the execution of export orders during this year as compared to the same period last year. The value of export orders executed during April-July, 1979 works out to Rs. 711.70 million as compared to Rs. 510.40 million in the corresponding period last year, i.e., an increase of about 50 percent. This improvement in the export performance of the public sector enterprises is particularly satisfactory in contrast with the overall export performance of engineering goods during the first quarter of 1979-80 where the exports had declined by about 7 percent.

Indo-IFAD Agreement

A 50--million dollar loan agreement was entered into recently in Rome between the International Fund for Agricultural Development (IFAD) and the Government of India to help finance a major development programme in the State of Maharashtra.

IFAD's loan will support for a five-year period (1979-84) the Bhima Command Area Development Project, an on-going development programme in which the Governments of India and of Maharashtra have already made major investments in civil works. Over two-thirds of the IFAD loan will help finance irrigation and drainage works.

This is the first-ever aid agreement between IFAD and India and the biggest allocation IFAD has made to any country from its resources upto now.

The agreement was signed by IFAD President, Mr. Abdelmuhsin M. Alsudeary and the Indian Ambassador to Italy, Mr. A. K. Damodaran.

The project will provide year-round irrigation to 62,000 hectares of land in a rain-scarcity area and will directly benefit about 25 000 farm families. With year-round irrigation, the farm income is expected to increase three-fold.

Apart from ensuring god yields, the provision of reliable irrigation water will increase cropping intensity. At the same time, a change will be brought about in the cropping pattern which will allow growing of high value crops such as vegetables and fruits to be grown with minimum risks.

At the stage of full development in 1989, it is estimated that the project will yield an annual incremental production of 142,000 tonnes of sorghum; 43,000 tonnes of wheat; 3,000 tonnes of paddy; 4,000 tonnes of pulses and 25,000 tonnes of other foodgrains. In addition the project will effect an annual increment in production of 101,000 tonnes of sugarcane; 35 000 tonnes of vegetables and 21,000 tonnes of groundnut.

As a result of the incremental production, it is estimated that the local economy will benefit to the extent of Rs. 446 million.

Employment will also increase with the completion of the project. It is estimated about 42,000 full-time on-farm jobs as well as 14.000 non-farm jobs and 600,000 construction jobs will be increased during the five-year project implementation period.

Growing Indo-Italian Trade

According to a commercial and economic report from the Embassy of India, Rome, India's exports to Italy exhibited buoyancy and marked up to Lire 88,412 million during the firsts five months of this year compared to Lire 62,423 milolin for the corresponding period of 1978. Thus they registered a notable hike of 41.63 percent.

The imports from Italy amounted to Lire 57.665 million recording an increase of 32.45 percent compared to the same period last year.

For the five-month period, India's trade balance with Italy amounted to Lire 30,747 million against Lire 18,885 million during same period last year.

It is interesting to note that even India's share in the Italy's total imports has gone up 0.38 percent against 0.35 percent of last year.

Market Survey of Engineering Goods in USA

A survey team deputed by Engineering Export Promotion Council has conduced a market survey on the engineering items, viz., diesel engines, machine tools and hand small and cutting tools auto parts in the State of Georgia, Florida, Louisiana and Alabama in USA recently.

As regards diesel engines, the team has made the following observations:

(1) Diesel engines industry in US is highly capital intensive. There is practically no manufacturer of diesel engines in the South East. However, there are a few manufacturers of marine diesel engines.

(2) In contrast to the Indian diesel engines, the American diesel engines are light in weight and more presentable.

(3) Indorduction of Indian diesel engines of unknown brands would be difficult.

(4) There is a good scope for small diesel engines, provided the availability of spare parts, prices, quality and delivery can match the existing ones.

(5) Due to emission control regulation, the Indian diesel engines would need a slight modification in order to control the exhaust.

(6) Quantitywise, 95 percent of the total US shipment of IC engines is of gasoline engines only and 3 percent accounts for non-automotive type of diesel engines. Valuewise, non-automotive type of diesel engines account for 45 percent of the total value.

(7) US manafacturers are concentrating on the manufacture of diesel engines for 50 hp and above.

(8) The South-East market of diesel engines (non-automotive type), is estimated to be around US $60 million which is 3 percent to 4 percent as compared to the total US market of diesel engines.

As for machine tools, the team's fidings are as under:

(1) Valuewise, the production of metal cutting type of machines including numerically controlled amounts to nearly 73 percent as compared to the total production of metal working machinery.

(2) The total market of machine tools in US is estimated to be around US $ 2.8 billion.

(3) The total market for machine tools in the South-East is estimated to be around US $100 million which is around 4 percent, of the total US market of machine tools.

(4) Many overseas suppliers of machine tools have their offices in US to perform various marketing functions. HMT from India has established such a facility.

(5) There are not many machine tools producing companies in the South-East and most of the requirements are met through US manufacturers only.

(6) The machine tools manufacturers are very innovative and come out with new models every year.

(7) Since the bulk of the market in the South-East is associated with the machine shops, automotive garages etc., a large quantity of conventional and used machine tools are required.

For hand tools, small and cutting tools, the team has observed :

(1) The total US market of hand tools and metal cutting tools is estimated to be around US$ 2 billion each.

(2) The growth rate of these markets is expected to be from 10 percent to 12 percent.

(3) The South-East market for hand tools is estimated to be around US $60 million and for cutting tools US$75 million. This as compared to the total US market, would be around 3 percent and 5 percemnt respectively.

(4) US market of hand tools comprises following three segments: (i) Professional mechanics segment; (ii) corporation market segment, and (iii) consumer segment which is also called as DIY segment.

(3) Hand, small and cutting tools market is completely price sensitive. This single factor can motivate the buying behaviour of the importers.

On auto parts, the team has reported thus:

(1) The original equipment market for auto parts is ruled out for the Indian exporters.

(2) There lies, however, a scope for them to tap the US auto-after market.

(3) The purchase of replacement parts is highly influenced by the OEM specifications.

(4) The Indian manufacturers of auto parts offer a very narrow range in comparison to their counterparts in the US.

respect of diesel engines, the survey team has recommended as follows:

1) Indian manufacturers/exporters should make some tie-up arrangements with the reputed US manufacturers of diesel engines who do not have their range of engines in their own manufacturing programme.
2) After-sale-services is an important aspect in marketing and selling diesel engines in US.
3) Establishing central warehouse and after-sale-service infrastructure in Atlanta by the Indian exporters/manufacturers would act as a catalyst in the eventual sale of their diesel engines.
4) Since the electrical requirements of US market are different and consumers are brand conscious, it is recommended that diesel engines should be exported without electricals.
5) Since the possibilities exist of marketing diesel engines to Latin America through the South-East, this should further be explored by the Indian manufacturers/exporters.

In regard to machine tools, the team has made the following recommendations.

(1) After-sale-service for marketing machine tools is as important as in case of diesel engines.
(2) Central warehouse and after-sales-service infrastructure in Atlanta as in case of diesel engines is recommended for the exporters/manufacturers of machine tools.

As for as hand, small and cutting tools are concerned, the team recommends the following:

(1) Contact should be established immediately in the South-East with the various importers/distributors as tapping this market later on would pose problems, because of active promotional measures already adopted by Japanese and Koreans.
(2) The agents should be appointed who could cater to this market segment exclusively. If this is not possible then somebody in the East of Midwest could be located who should concentrate in this area also.
(3) The selection of distribution channel is very important and short-circuiting by approaching middle-men should be avoided.
(4) DIY market offers a good potential for Indian products and this market should be tapped.
(5) The Indian manufacturers should seriously consider advertising their range of products.
(6) The South-East can form a gateway for Indian exporters to export their items to Latin America also.

The team has, made the following recommendations on auto parts:

(1) A consortium approach by the various small scale manufacturers should be adopted to offer a comprehensive range of auto products instead of offering limited range
(2) The manufacturers/ exporters should tap auto after market and should not concentrate on OEM.

Indo-FRG Financial Cooperation

Indo-FRG Governments negotiations on economic cooperation took place in New Delhi during the second week of the current month in a friendly atmosphere of mutual trust.

The Indian delegation was headed by Mr. R.N. Malhotra, Additional Secrytary in the Ministry of Finance, and the West German delegation by Dr Franz Klamser, Ministerialdirigent in the West German Ministry for Economic Cooperation.

The negotiations were concluded with the signing of an agreement for DM 290 million (Rs. 1363 million as financial assistance for the year 1979-80. An agreement for DM 70 million (Rs. 329 million) in commodity aid had already been signed in June 1979, thus bringing the total West German financial assistance to India in 1979-80 to DM 360 million (Rs. 1692 million).

In addition, technical assistance in the form of equipment, services of experts and training facilities would also be available in the current year for Indo-FRG Technical Cooperation projects.

It was agreed that in selecting projects for development cooperation, attention should be concentrated primarily on rural development (including agriculture and water supply, energy, elimination of bottlenecks in the economy, etc.) The German side also evinced interest in the field of primary health care.

Industrial Growth and Diversification

Committee to Review Working of DGTD

The Government of India has decided to appoint a Committee to undertake a review of the role, functions and organisational structure of the Directorate General of Technical Development (DGTD). The Committee will be headed by Mr. V. G. Rajadhyaksha, Member, Planning Commission.

The other members of the Committee

are selected for hundred percent Central assistance include interstate transmission lines, roads of inter-state importance, adult education, integrated child development services, post matric scholarships and aid to voluntary organisations for welfare of backward classes.

The District Industries Centres project for the development of village and small industries have been allocated Rs. 951.5 million in the Sixth Plan period and will be jointly financed by the Centre and the States. The other schemes which would be funded on a sharing basis are development of inland water transport and roads of economic importance, experimental projects of non-formal education, services for children in need of care and protection, welfare of destitute women and children, integrated education of the handicapped, special employment exchanges for handicapped, pre-matric scholarships for children of those engaged in unclean occupations, girls' hostels, book banks for medical and engineering students belonging to scheduled castes and tribes, scheduled caste development corporations and rehabilitation of bonded labour.

More Central Loans Issued

The Union Government recently announced the issue of the following three Government of India loans aggregating Rs. 4500 million.

(i) 5 3/4 percent loan, 1984 to be issued at Rs. 100 percent and repayable at par on October 29. 1984.

(ii) 6 1/4 percent loan, 1991 to be issued at Rs. 100 percent and repayable at par on October 29, 1991. and

(iii) 7 percent loan, 2009 (Third Issue) to be issued at Rs. 100 percent and repayable at par on May 25, 2009.

Subscriptions to the above loans will be received in the form of cash/cheque.

Subscriptions will be received on October 29 and 30, 1979, but the subscription lists may be closed earlier without notice as soon as the total subscription amounts to Rs. 4500 million. The Government reserves the right to retain subscriptions upto 10 percent in excess of the notified amount.

If the total subscriptions received for the loans exceed the notified amount plus the amount of 10 percent retainable as aforesaid, partial allotment will be made and the balance refunded in cash as soon as possible.

In the case of 7 percent loan, 2009 (Third Issue), interest for the period October 29 to November 24, 1979 (inclusive) will be paid on November 24, 1979 (November 25 being Sunday) and thereafter interest will be paid half-yearly on May 25 and November 25. Interest on 5 3/4 percent loan, 1984 and 6 1/4 percent loan, 1991 will be paid half-yearly on April 29 and October 29.

Interest on all the loans now issued together with interest on other previous Government securities and income from other approved investments will be exempt from income tax, subject to a limit of Rs. 3,000 per annum and subject to other provisions of Section SOL of the Income-tax Act, 1961. The value of the investments in the loans now issued together with the value of other previous investments in Government securities and the other investments specified in Section 5 of the Wealth Tax Act will also be exempt from the wealth tax upto Rs. 150,000.

Applications for the loans will be received at: (a) Offices of the Reserve Bank of India at Ahmedabad, Bangalore, Bombay (Fort and Byculla), Calcutta, Hyderabad, Jaipur Kanpur, Madras, Nagpur, New Delhi and Patna; and (b) branches of the State Bank of India at all places in India except at (a) above.

Notable Movement of Coal By Rail

The Railways moved 8852 wagons of coal every day during the month of September. This loading was highest so far during the current financial year. During August, the daily average loading of coal was 8727 wagons.

But for observance of Puja Holidays in the Eastern Coalfields, loading of coal would have been better by about 100 wagons per day.

The Railways made special arrangements to step up supply of coal to thermal power stations keeping in view drop in hydel generation due to inadequate rains. This was done to enable the thermal power stations to meet the energy requirements for agricultural activities in the drought affected States.

Coal supplies to thermal power stations was increased to 2861 wagons per day in September from 2669 wagons in August.

Even steel plants were supplied more coal in September. The movement of coal to steel plants improved to 36,800 tonnes every day as against about 36,000 tonnes in August.

Rise in Offtake of NPK Fertilisers

A nine percent increase in the offtake of complex fertilisers (NPK) has been recorded by the Indian Farmers Fertilisers Cooperative Limited (IFFCO) during the current kharif despite drought conditions in several States. This was revealed recently in the quarterly

review meeting of the IFFCO held in New Delhi under the Chairmanship of Dr. M. S. Swaminathan, Secretary Agriculture and Cooperation. Mr. Paal Pothan, Managing Director of IFFCO attended the meeting besides senior officers of the Ministries of Agriculture and Irrigation, Finance and Chemicals and Fertilisers.

As against 252,800 tonnes of NPK released by IFFCO during 1978 kharif season, the total quantity released during the current kharif was 276,201 tonnes.

Gujarat recorded maximum offtake of NPK with 102,173 tonnes This was followed by Punjab with an offtake of 40,968 tonnes and U.P. 35,393 tonnes. The NPK offtake from IFFCO of other States was: Madhya Pradesh (19,500 tonnes), Haryana (15,942 tonnes), Maharashtra (14,181 tonnes), West Bengal (12,788 tonnes), Karnataka (10,632 tonnes), Rajasthan (8,390 tonnes), Andhra Pradesh (4,695 tonnes), Bihar (4,424 tonnes), Orissa, (3,220 tonnes), Kerala (676 tonnes), Jammu and Kashmir, (300 tonnes), Himachal Pradesh (182 tonnes) and Delhi (146 tonnes).

The release of urea, however, went down from 144,031 tonnes during 1978 kharif to 113,100 tonnes in the current kharif. This was due to the break-down of the urea plant at Kalol.

The major marketing area of IFFCO being in the northern States, the fertiliser consumption for the rabi crop is generally higher. However, during the last two years, the IFFCO stepped up considerably its kharif sales.

The meeting was further informed that of the total allocation of 301,000 tonnes of NPK under the Essential Commodities Act (ECA) for 1979-80 rabi, the IFFCO made available to the States until 21st of last month (September) 102,509 tonnes, half of which has already been released. Likewise of the 200,000 tonnes of ECA allocation of urea for the same period, 51,297 tonnes were made available to the States.

The progress of various projects and extension schemes of various plants including construction of Phulpur and Hazira projects was also reviewed. Mr. Pothan stated that Phulpur project had almost reached the stage of completion and was likely to go into commercial production in January 1980.

Science and Technology

Development of Laser Technology

India has made considerable advances in the field of use of laser beams for guided missiles. The Institute of Armament Technology (IAT) near Pune, under the control of the Defence Research and Development Organisation is engaged in developing its own laser equipment for different uses.

Laser is an acronym for light amplification by stimulated emission of radiation. Unlike the waves emitted by an ordinary light source, such as an electric lamp, the laser produces a light beam that does not diffuse. Moreover, laser organises the energy wave emitted by a stimulated atom so that they travel in the same direction, at the same frequency and perfectly in step with the stimulating radiation. A laser thus produces a very narrow band of frequencies similar to those of a radio oscillator but in the infrared and visible-light portion of the spectrum. The laser has applications in communication systems, devices for range finding, radio tracking, welding surgery and a three dimensional photographic technique called holography.

The Western countries have been developing laser technology for use in weapons for quite some time. A laser beam can guide a missile or a weapon to the target with deadly accuracy, be it surface to air, air to surface or surface to surface. The IAT is working on developing the latest technology for guiding missiles, anti-tank projectiles and other weapons. The reasearch is being conducted for producing a mobile laser unit for field use. A typical gas laser such as Helium-neon laser is normally operated with a high voltage supply of about 3 to 5 Kvs. Laser units for field use would have to be much smaller, working on power supply from ordinary mobile generators like in the case of field radar units.

The IAT was set up in 1952 as a training institute for senior defence officers and defence civilian scientists in the field of science and technology of armament which has direct bearing on the requirements of defence. The institute conducts courses on basic science and technology and the study of principles of operation of a service weapons and equipment and techniques governing their design, production and inspection. The students are encouraged to fabricate typical components of weapon system as part of their design exercises.

The Institute is equipped with advanced physical, chemical and engineering laboratory facilities covering ballistic instruments, computer, low speed wind tunnel gas laser, micro wave teleprinter and TV circuit and holography.

The Institute has a sizeable collection of typical weapons systems utilised by the services. These include foreign weapons systems from the pre-world war-I days to those of the world war II and after.

Methane Telemonitoring System

Central Mining Research Station at Dhanbad has developed a methane telemonitoring system for continuous surveillance of methane build-up in the underground atmosphere. The single point system has been developed in collaboration wih Bharat Bijlee Limited, Bombay.

Localised ignition of methtane is a major cause of explosions in the coal mines. It is a colourless and odourless gas and its presence cannot be detected by normal human senses. A variety of hand-held or portable instruments which are available in the market, can be operated when activated by miners. As it is not feasible to pursue manual checks continuously, abrupt change in methane percentage during two intermediate checks is likely to go unnoticed by workmen. The detection of the presence of methane in the mine air before it reaches the explosive range (5 to 15 percent) is the only way to avert explosions, CMRS took research to develop this system.

The system consists of two sets of assemblies. One set is placed in the underground for sensing methane and transmitting signals continuously to a surface station through cables. Another set, installed in the surface station receives and records the conditions of the underground air continuously and relays information for operating alarm and power cut-off. When methane percentage goes out of the present limit, the alarm is activatied which gives flashes.

This device was installed at Sudamdih and Moonidih coal mines of Bharat Coking Coal Limited two years ago. A multi-point system, the modified version of single point system will be installed at Jamadoba coal mine. This improved version is capable of monitoring the methane concentration of several strategic underground locations simultaneously.

Indigenous Technology for a Powerful Explosive

India is one of the few countries in the world which have the know how to produce HMX, the most powerful explosive so far known to the world. HMX or Her Majestry's Explosive is a British invention and India has succeeded in producing it through indigenously developed technology.

HMX is used in warheads of sophisticated missiles and rockets and has far greater destructive power than other types of explosives now in use.

HMX is produced in a pilot plant located on the complex of Explosive Research and Development Laboratory (ERDL), a wing of the defence research and development organisation in Pashan, near Pune.

ERDL has undertaken the designing and setting up of a larger plant which is expected to be ready in the near future and meet the basic needs of the defence forces. The entire research process on HMX was started two years ago.

ERDL is engaged in both basic and applied research as well as development work in all fields of explosives covering propellants for small arms, guns, rockets, missiles, high explosives, pyrotechniques including smokes, flares, illuminating compositions, delays and ignites. The labortory also works on instrumentation, pilot plants, process engineering and design. ERDL has built up considerable expertise in all fields of its activities and saved foreign exchange to the tune of Rs. 280 million.

ERDL succeeded the Chief Inspectorate of Military Explosives begun in 1942. It had the dual responsibilities of inspection as well as research and devlopment of explosives and non-explosive connected with the ammunition till the formation of Defence Research and Development Organisation and subsequent bifurcation of inspection wing. It is now purely as R and D establishment.

Revised Version of Standard Specifications

Indian Standards Institutions has published the first revision of an Indian standard specification for prestressed concrete pipes (including fittings) (IS: 784-1978) which covers the requirements of prestressed concrete cylinder and non-cylinder pipes (including fittings) with nominal internal diameter in the range of 80 mm to 1800 mm, in which permanent internal stresses are deliberately introduced by tensioned steel to counteract the stresses caused in the pipe under service to the desired degree.

This standard was first published in 1959. The present revision was taken up with a view to bringing it in line with the latest trends in the related technology and to incorporating the modifications found necessary as a result of use of the earlier version of this specification.

This standard lays down the requirements of prestressed concrete pipes primarily used for the conveyance of water of sewerage and fittings for use with them. Two types of prestressed concrete pipes are covered by this specification, namely, prestressed concrete cylinder pipes and prestressed concrete non-cylinder pipes.

The present revision incorporates a number of modifications, the most significant of them being: (a) introduction of prestressed concrete cylin-

der pipes, (b) inclusion of requirements of fittings, and (c) provision of more details on design criteria for the pipes.

The ISI has also published the second revision of an Indian standard specification for domestic gas stoves for use with liquefied petroleum gases (IS: 4246-1978) which specifies construction. operation, safety requirements and tests for domestic gas stoves intended for use with liquefied petroleum gases at 2.942 kN/m2) (30 gf/cm2) gas inlet pressure.

For convenience, this standard has been divided into three sections as follows: construction, performance, and general.

This standard was first published in 1967 and revised in 1972. Since then many suggestions were received for its improvement. This standard is being revised again to incorporate the amendments issued and the suggestions received from time to time.

This standard is one of a series of Indian standards on various domestic and commercial gas burning appliances (pressure type) used with LPG. General requirements of these equipment are covered in 'IS:5116-1977 General requirements for domestic and commercial equipment for use with LPG (first revision) which is necessary adjunct to this standard. Should, however, any deviation exist between the requirements given in IS:5116-1977 and those of this standard provisions of the latter shall apply.

These standards provide both for certification marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI Mark on their products may contact the Indian Standards Institution.

A Profile of Indian Tractor Industry

The tractor industry in India is of relatively recent origin. It was established during the Second Five Year Plan period, when increasing emphasis was placed on the mechanisation of agriculture. The adoption of the new agricultural strategy in 1966-67 and the success registered by the high-yielding varieties programme gave added impetus to the development of the tractor industry. At present, there are about 350,000 tractors in the country, a large number of which are in Punjab and Haryana.

Presently, there are 11 units engaged in the manufacture of agricultural tractors in the country in the organised sector with a total licensed capacity of the order of 102,000 tractors. The total installed capacity of these units is 69,600 tractors and their production is about 40,000 tractors. In addition, one unit in the private sector and another in the public sector have been licensed to manufacture agricultural tractors, bringing the total licensed capacity of the industry to 127,000 tractors per year. Total investment in the tractor industry is of the order of Rs. 700 million excluding the large investment in ancillaries. The eleven units, which are presently in operation are :

International Tractor Company of India Ltd. (Bombay), Escorts Tractor Ltd (Faridabad), Escorts Limited (Faridabad), Hindustan Tractors Ltd. (Baroda), Kirloskar Tractors Ltd.(Nasik), Eicher Tractors India Ltd. (Faridabad), Tractors and Farm Equipment Ltd.(Madras), Hindustan Machine Tools Ltd. (Pinjore - Haryana), Punjab Tractors Ltd, (Chandigarh), Harsha Tractors (New Delhi), and Pittie Tractors (Poona).

On February 7, 1968, the Union Government exempted the tractor and power tiller industries from the licensing provisions of the Industries (Development and Regulation) Act, 1951, with a view to giving a fillip to the manufacture of these items as the installed capacity at that time was not adequate to meet the demand. Further, the industry was included in the list of industries in the core sector. The Government had also permitted the industry to import components and raw materials on priority basis and granted additional capital goods import licences. Even though delicensing gave an opportunity for many new entrants into the field and introduced competition within the industry, the growth of the industry continued to be regulated inasmuch as the Government's approval was necessary for any foreign collaboration or for import licences. Further, in 1970, licensing control was imposed on all industries including those which had been delicensed in the past. Thus, the tractor industry once again came under licensing rules from February 1970 onwards.

The first trator plant in the country was set up by M/s. Eicher Tractors India Ltd. in Faridabad in 1961. Since then, production of tractors has maintained a steady uptrend except for the year 1971-72. From only 880 units in 1961-62, production rose to 19,535 tractors in 1970-71. There was decline in production in 1971-72 to 16,750.

Thereafter, production rose to 20,802 tractors in 1972-73 and has continued to exhibit an upward trend since then. The production is targetted to reach 50,000 tractors in 1978-79, as against 41,000 in 1977-78.

In 1971, the Government had requested the NCAER (National Council of Applied Economic Research) to esti-

mate the demand for tractors during the Fifth Plan period. The NCAER estimated the demand for tractors at 36,000 units in 1973-74 and 79,000 units in 1978-79, showing an annual rise of 15 percent. The Planning Commission accepted these estimates and placed the production target by the end of the Plan period at 80,000 tractors. On the basis of these estimates, many additional licences were issued by the Government in recent years. Thus, in 1979, the Government granted licences to four parties for a total capacity of 32,000 tractors per annum. In addition 7 letters of intent for a total capacity of 39,800 tractors were also issued.

As it turned out, these projections were over-estimates and demand did not materialise to this extent. According to recent estimates made by the Planning Commission, the demand is likely to be about 50,000 tractors by 1978-79, while according to the current estimates of Directorate General of Technical Development, annual domestic demand is expected to touch 51,000 tractors by 1983-84. A production target of 45,000 tractors was originally fixed for 1982-83, but this is likely to be revised to 68,000 units in view of the pick-up seen in tractor production in recent months. Therefore, the capacity already licensed is now considered to be adequate to meet the estimated demand in coming years. The capacity utilisation in the industry has ranged between 45 and 65 percent during the last 5 years.

In order to make available indigenous tractors to farmers at reasonable prices, the Government introduced the Tractors (Price Control) Order in March 1967. Selling prices of tractors were revised from time to time on the basis of the recommendations of the Bureau of Industrial Costs and Prices. Between 1972 and 1974, tractor prices had to be revised upwards several times on accout of increases in the cost of production. Subsequently the Tractors (Price Control) Order was withdrawn from October 1974 and was replaced by a system of parametric surveillance.

Any price increase made by the manufacturers was subject to a scrutiny by the Government to check whether the increases made fell within the parameters laid down by the Government. This system was called 'parametric surveillanec.' The idea was that this would ensure a fair return to manufacturers and also lead to maximum utilisation of capacity . In 1976 the Government removed even this indirect price control, except in the case of 3 preferred models, viz., MF 1035 (35 H.P.) and TAFE-504 (50 H.P.) manufactured by M/s. Tractors and Farm Equipment Ltd., and Ford—3000 (46 H.P.) manufactured by M/s. Escorts Tractors Ltd.

The Tractors (Distribution and Sale) Control Order prescribes the procedure for registration of orders with dealers for purchase of new tractors. The order forbids any individual from buying more than one tractor during the course of a year and also bans its subsequent sale within two years, except under certain circumstances. The distribution of all types of tractors was covered by this order from 1971 to 1976. Presently, this order is applicable only to the same three models of tractors (mentioned above) which are under price surveillance.

Import of tractors was permitted on a liberal scale up to 1972-73 in a bid to bridge the gap between domestic production and demand . Tractors were imported from Czechoslovakia, the UK, the USSR, West Germany, Rumania, Bulgaria, Yugoslavia and the German Democratic Republic.

Large scale import of tractors was decided upon by the Government in view of liberal credit facilities offered by the World Bank. The Government's decision was also influenced by the indents placed by farmers with agro-industries corporations for imported tractors. However imports created some difficulities both for agriculturists and indigenous manufacturers. The agriculturists could not obtain proper service facilities and spare parts and consequently many imported tractors were immobilised. But large scale imports had a deleterious effect on the growth of the indigenous industry inasmuch as this resulted in an unhealthy competition between imported and indigenous tractors. Therefore, the Union Government decided in February 1973 to ban the imports of tractors altogether excepting those coming under World Bank assistance scheme. Presently, the Indian tractor industry is in a position to meet the present demand and no imports of tractors are allowed.

The Indian tractor industry made a modest beginning in the export market in 1974-75. The exports of agricultural tractors and parts amounted to Rs.21.64 million Rs. 19.58 million and Rs. 5.77 million in 1974-75, 1975-76 and 1976-77 respectively.

Tractors and other agricultural equipments are exported to countries like the UK, Australia, Indonesia, Japan, Kenya, Muscat, Mauritius, Philippines, Somalia, Sri Lanka, Tanzania, Turkey, Uganda, Uruguay and Zambia. In order to increase the export potential of Indian tractors, steps have been initiated by some of the units to update the designs, particularly of engines.

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economic and commercial news

News Highlights

Upswing in India's Exports Continues

India's export have continued to exhibit buoyancy. They soared to Rs. 24,042.5 million during the first five months of the current financial year from Rs. 20,451.8 million during the corresponding period last year, marking a hike of 18 percent.

Export Performance of Public Sector Units

The performance of public sector undertaking under the Department of Heavy Industry in executing the export orders registered imrovement to Rs. 876.3 million during the first five months of current financial year from Rs. 608.9 million during the corresponding period last year, reflecting a step-up of about 26 percent.

Rising Trend of Natural Silk Goods Exports

The aggregate exports of silk goods—both mulberry silk and tassar silk goods-rose from Rs. 86.05 million during April-June, 1978 to Rs. 111.37 million during the corresponding period of the current financial year, thus recording an increase of 29.4 percent.

(Contd. on page 2)

Export Performance and Potential

Promoting Economic Cooperation between India and Kuwait

Economic cooperation and trade between India and Kuwait have been growing steadily over the years. According to a commercial report from the Embassy of India, Kuwait, M/s. Telecommunications Consultants India Limited (TCIL) have been awarded a contract valued at Rs. 90,000 for de-loading of some telephones lines by the Kuwaiti Ministry of Communications. With this contract, the total value of the work contracted by the TCIL comes to Rs. 3.52 million.

The report further states that another company M/s. STUP Consultants Ltd. have secured a consultancy sub-contract valued at Rs. 1.20 million from a Kuwait consultancy group to prepare tender documents and drawings for a 16,000 sq. metres maintanence hanger for two Boeing aircrafts of the Kuwait Airways Corporation.

In order to further promote bilateral cooperation, of a five-man team sponsored by the Indian Institute of Foreign Trade (IIFT) visited Kuwait recently for a market orientation tour and to establish buying contracts for DVC polythene pipes and fittings. Another three-man team sponsored by the Institute also visited that country to undertake field investigators in connection with the possibility of export of processed fruits and vegetables from India.

According to the report, the total trade between two countries amounted to Kuwaiti Dinar (KD) 35.90 million during the first half of 1978. India's exports to Kuwait in the first half of 1978 dipped to KD 20.62 million from

...itish Economic Meet

recent meeting of Indo-British Economic Committee, which was held in London recently, the leader of Indian delegation Mr. Hitendra Desai, the Union Minister of Commerce and Civil Supplies referred to textile and jute sectors, where existing protectionist policies had restricted Indian exports. He urged upon Mr. John Nott, Secretary for Trade of United Kingdom that further protectionist measures should not be adopted, while existing protectionist policies should be dismantled as early as possible.

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KD 26.98 million in the corresponding period in 1977. The reports adds that the reasons for the decline in exports to Kuwait could be due many general downward trand in the Kuwait's global imports and supply constraints in India. India's imports from Kuwait improved to KD 15.28 million from KD 13.50 million. Thus India had a trade surplus to the tune of KD 5.34 million during the period under report.

Indo-Bangladesh Trade Agreement

The Trade Agreement between India Bangladesh which initially came into force on September 28, 1973 and was renewed in 1976 for a period of three years, has now been extended by another year and will remain valid upto September 27, 1980. Trade between India and Bangladesh is in free foreign exchange.

India's main items of exports to Bangladesh are coal, textile yarn, fabrics, iron and steel, machinery and transport equipment, crude fertilizer and crude minerals etc. Over the last couple of years, the major commodities imported from Bangladesh have been newsprint and writing paper.

In order to boost trade exchanges, India has been extending financial assistance to Sri Lanka. India would be giving a loan of Indian Rs. 100 million to Sri Lanka during this year. This is the highest ever loan under the Indian Committee Loan Agreement since 1967. The loan would involve 15 1/2 years repayment clause, including three years grace and interest at 5 percent per annum.

During the ten years period, 1967-1976, India provided five loans to Sri Lanka of SL Rs. 50 million each at two years intervals, for the purchase of miscellaneous capital goods. In 1977 the extent of Indian credit was increased to SL Rs. 70 million while in 1978 the loan amounted to SL Rs. 100 million.

The Indian loan would be utilised by Sri Lanka mainly for the purchase of bus chassis and other commercial vehicles and spares, bus body building materials, vehicle and telecommunication equipment, railway equipment and industrial, agricultural, construction and general plant machinery.

Export Maintain Higher Tempo

Exports from India maintained the upward trend in August this year too. Exports including the re-exports during April-August, 1979 registered an increase of about 18 percent over the corresponding period in 1978.

According to provisional figures, exports during the first five months of the current financial year aggregated to Rs. 24,042.5 million compared to Rs. 20,451.8 million during April-August last year.

During April to August, 1979, the total imports have provisionally been placed at Rs. 30,277.5 million as against Rs. 25,444.5 million for the same period last year. This shows an increase of almost 19 percent.

Indo-Hungarian Economic Cooperation

The possibilities of further strengthening commercial relations between India and Hungary in the fieid of railways were explored at a meeting between the visiting Hungarian trade delegation and the Railway Board last month in New Delhi.

The four-member delegation from Hungary was led by Mr. Sandor Udvardi, Deputy Minister for Foreign Trade, Hungarian People's Republic. Mr. Gy. Szabo, Deputy Director, Ministry of Foreign Trade; Mr. L. Szebeni, Commercial Counsellor and Trade Representative in India, and Mr. G. Pichler, Commercial Secretary were the other members of the delegation.

The Indian team was led by Mr. M. Menezes, Chairman, Railway Board, Mr. P.N. Jain, Financial Commissioner, Mr. K.S. Ramaswamy, Member Mechanical; Mr. V.C.A. Padmanabhan, Member Engineering and Mr. S.N. Sachdev, Member Traffic were the other members of the Indian team. Mr. T.S. Vijayaraghavan, Officer on Special, Duty, Department of Heavy Industry was also present.

At present, the Indian Railways are importing wheelsets, wheels, tyres and axles from Hungary.

It may be mentioned that Hungary is an important trading partner of India in East European countries. India's exports to Hungary were estimated at Rs. 248 million in 1977 as compared to Rs. 185 million in 1976. India's imports from Hungary amounted to Rs. 208 million in 1977 as compared to Rs. 152 million in 1976.

India's main exports items to Hungary are de-oiled groundnut cakes, iron ore, jute goods, pepper, coffee, hides and skins, medicinal and pharmaceutical products. India's main imports from Hungary comprise steel and steel products, capital goods and machinery drugs and pharmaceuticals, chemicals, photographic and cinematographic films including re-rolls.

The trade between the two countries is carried on in free currency from the begining of 1978. Both countries have agreed to boost two-way trade at the first meeting of the Indo-Hungarian Joint Business Council held in Budapest recently. Possibilities of production co-operation and joint ventures in third countries also came up for discussion.

India's Participation at SGMA EXPO'79

India has participated successfully at the Sporting Goods Manufacturers' Association (SGMA) Expo'79 held in New York recently. The Indian participation in this exposition was organised by the Trade Development Authority (TDA). Orders worth over US$ 100,000 have been booked at SGMA. Additional orders for another US $ 100,000 are expected to be finalised shortly.

Items of sports goods for which buyers evinced interest were soccer balls, pumps, wooden bases of sports trophies etc.

Five Indian manufacturers of sports goods displayed their products in this exposition which is the biggest trade fair for such items in the USA. Amongst the various items displayed were soccer balls, soccer requisites, leather balls of all types, tennis racquets, sports bags, sports tropnies etc. Besides the orders booked, over 150 enquiries were generated.

Record Exports of Garments

The provisional figures of the export of cotton textiles in general indicate that the export reached an all time level of Rs.6,370 million during 1978-79. Previous to this, the highest level had been attained in 1976-77, when the export was to the extent of Rs. 6310 million.

This year the position continues to be even better. In case of garments, the provisional export figure during April-July shows that the export of garments and knitwear has been nearly Rs. 1,436.70 million during the period which compared to the export of Rs. 1,100.40 million during the same period in the previous year, does appear to be quite high.

The average utilization of the garment quota in the USA and the EEC during January-July has been around 59.71 percent as against 57.27 percent during the corresponding period in the previous year. The level of utilisation so far is thus slightly higher; but the value is much higher which indicates that unit value realisation has had a substantial hike.

The quota utilisation under bilateral agreements is done on calendar year basis. It is seen that the provisional export figure during January-July, 1979 for quota items of garments and knitwears has been around Rs. 2,290 million compared to the entire cotton garment exports (including both quota and non-quota items and countries) of Rs. 1,976 million during the same period in the previous year. The estimated figure for all quota and non-quota countries as well as categories is around Rs.2,750 million during January - July, 1979 which marks an increase of nearly 39 percent over the corresponding figure during the last year.

India's bilateral agreement with EEC and USA, which are India's principal consumers, covers a large number of items. Some of these items, for example men's shirts and women's blouses are very popular in many countries; whereas some other items are not so popular. Since a large number of items numbering more than 100 both for USA and EEC are to be monitored, it is but

natural that some problems of implementation crop up occasionally. These are immediately taken up with the concerned authorities and appropriate corrective action is taken.

Apart from continuous monitoring of original quota levels, there are flexibility provisions available under the bilateral agreements,like inter-country flexibility as well as carry-over/carry-forward from other years. These are availed of after close monitoring from time to time.

There are also provisions under the agreements to have inter-country transfer for which the matter has to be taken up with the Commission authorities well in advance. For this purpose, consolidated reference was sent to the concerned authorities well in time, and Community authorities have recently agreed to make substantial transfer in fast moving categories from other categories which are not moving that well. In specific terms, the Community authorities have agreed to transfer 230,000 pieces to France; 100,000 pieces to Italy and 10,000 pieces to Denmark under category 7(blouses) and 350,000 pieces to Italy under category8 (men's shirts) from UK and West Germany. This would help India considerably in utilisation of India's quotas to the maximum possible extent.

The prospect of the future, however, is to be ascertained with caution. A clearer picture would, however merge after some time when the trend of utilisation for more than six months in the current financial year becomes available

Uptrend in Cashew Exports

The total exports of cashew kernels during the first half of(January-June) 1979 rose to 16951 tonnes worth Rs. 468.9 million as compared to 9312 tonnes valued at Rs. 308.5 million during the same period last year, thereby reflecting an increase of 82 percent in quantity and 52 percent in value.

All the major consuming countries improved their intake during the period under review. The offtake by important overseas buyers during the period was as follows: USA (7,032 tonnes) USSR (4,421 tonnes), Japan (1,713 tonnes), Netherlands (693 tonnes), Australia (684 tonnes), Canada (515 tonnes),German Federal Republic (374 tonnes), UK (267 tonnes) Singapore (244 tonnes), Kuwait (217 tonnes) and France (169 tonnes).

The total exports of cashewnut shell liquid during the period, increased to 4636 tonnes valued at Rs. 51 million from 2079 tonnes valued at Rs 11.60 million during the corresponding period last year. Export to all major markets except UK registered significant hike. The imports by major consuming countries were as under: USA (1380 tonnes), Japan(997 tonnes), UK (837 tonnes), Korea Republic (613 tonnes) and Yugoslavia (320 tonnes).

To improve the overall availability of cashew, a quntity of 27,727 tonnes ran cashewnuts worth Rs. 110.8 million were imported during January June, 1979 as compared to 16,327 tonnes worth Rs. 63.70 million imported during the corresponding period last year.

The Government of India has announced a new scheme for import of raw cashewnuts by private parties subject to certain conditions. Under this scheme, manufacturers-exporters of cashew kernels registered with the Cashew Export Promotion Council would be allowed to import raw cashewnuts from countries other than Tanzania, Mozambique, Kenya and Malawi. Import of raw nuts from these four countries will be continued through the canalising agency, the Cashew Corporation of India Ltd., as at present

Importers will be required to register their contracts with the Cashew Corporation of India Ltd.,besides complying with other necessary requirements. The Corporation, based on eligibility and compliance with such necessary requirements, will issue authorisation to each importer in terms of the contract cleared for registration, for clearance of the goods through the Customs. The importers should make available 50 percent of the goods thus imported to the Cashew Corporation of India at the contracted price for its allocation to the other eligible parties in terms of the current import policy.

Export obligation currentlyap plicable under the ITC Policy for allotment of imported raw cashewnuts will also apply to all imports made under this scheme.

Spices Exports Look Up

Exports of spices rose to 26,227 tonnes valued at Rs.379 million in the first quarter (April-June) of current financial year as compared to 18,986 tonnes valued at Rs. 256.5 million during corresponding period last year. During this period, exports of pepper, cardamom, ginger, turmeric, cumin-seed, fennel seed, fenugreek seed and cassia were higher in terms of quantity than in the corresponding period last year. On the other hand, exports of chillies, coriander seed, celery seed and garlic were lower in terms of quantity than in April-June 1978.

Exporting Man-Power

Although the export of man-power from India dates back to the 19th

century when Indian labour was employed in plantation industries in several countries such as Ceylon, Malaysia, Thailand and Fiji, as well as other industries in Africa, it has assumed greater importance only since 1973. This is mainly because of the emigration of Indian workers on a large scale to the oil exporting countries of West Asia.

The escalation of oil prices since 1973 has led to an enormous increase in revenue from petroleum which has enabled them to launch several industrial projects and build up economic infrastructure such as roads, sewage system, water supply, etc. The construction boom thus ushered in the West Asian countries has provided a number of opportunities to several Indian workers and artisans with their traditional skills. As a result, in contrast to negligible remittances by Indians employed abroad for family maintenance and for investment prior to 1973, remittances from abroad have increased at a rapid rate since then.

Inward remittances from non-residents increased from Rs.1910 million in 1973 to Rs. 4780 million in 1975 and further to Rs. 8200 million in 1977. The inward remittances formed 7.9 percent of the country's total value of imports in 1973, and their share in the total value of imports was 13.0 percent in 1977. Similarly, total remmittances received in 1973 equalled to 8.5 percent of the value of the country's total exports, and they were about 14.8 percent in 1977.

The earnings from the export of labour in the form of the inflow of remittances by Indians from abroad have helped to a very large extent, in augmenting country's foreign exchange reserves during 1973 to 1978. Such inward remittances accounted for as much as 50.7 percent of the foreign exchange reserves in 1973, 63.4 percent in 1975 and 20.5 percent in 1977.

The growth rate of the number of Indians going abroad represented by 'P' Forms cleared by the the Reserve Bank, showed rise in 1978-79 as against a deceleration in the rate in 1977-78. Moreover, there is no indication to show that the West Asian countries are imposing any sort of restrictions on the immigration of Indian labour. It may be noted that with a record estimated current account surplus of $75 billion in 1980 as against as estimated surplus of $6 billion in 1978, the Organisation of Petroleum Exporting Countries (OPEC) may launch several industrial projects, resulting in the employment of a large number of Indians in Gulf countries in the ensuing years. In addition, the re-oreintation of Government of India's policy of simplification of procedures relating to issuance of passports and foreign travel for taking up employment abroad is likely to encourage more Indians to go abroad.

However, in the interest of promoting the exports of man-power from India, more efforts are required. Such a move is essential, especially in the context of the weakening of the exports of primary commodities from India and also in view of the widening trade deficit. It has been reported that sending out carpenters, masons, bricklayers, civil engineers, electricians, etc. as individuals, may not give them adequate bargaining power for fetching attractive remuneration. Therefore, it will be in the interest of these labourers and in the interest of the economy that instead of sending them out individually, they should be sent out as a team in the form of civil engineering or construction contracts. Similarly, instead of sending cooks, butlers, waiters and managers as individuals, it would be proper if country's expertise in hotel management is exported as a part of complete package. Apart from this, forging of suitable collaboration between India and some of the developed countries in the third countries can also help in providing a large number of opportunities to a vast reservoir of Indian human resources—both skilled and unskilled.

Market Survey of Surgical Instruments in USA

According to a recent market survey on surgical instruments in USA, conducted by Engineering Export Promotion Council, Chicago Office, surgical instruments constitute a multi-million dollar business in United States of America. This industry comprises establishments primarily engaged in manufacture of medical, surgical, opthalmic and veterinary instruments and appliances. Also covered are units making orthopedic prosthetic and surgical appliances and supplies, arch support, bandages, fracture appliances, surgical gauze and dressing, personal safety appliances and instruments.

Though the American industry manufactures most of these items, it concentrates mainly on the complicated items like anesthesia apparatus, metabolism and blood pressure appliances and import the relatively simple items like forceps, scissors, needles, needle holders, etc. It is this segment of surgical instruments where the Indian exporters have the opportunity to penetrate, says the survey report.

Basically this segment of surgical instruments is divided into two categories depending on the nature of their uses. The sophisticated type imported mainly from developed countries like Germany, Japan, UK or in small volume made in USA are used mainly in the operation theatres. Th-

type known as the once used type or throw-away type are imported from developing countries only on price consideration and are of lower quality and are used in the hospital floors. Pakistan is the biggest supplier of this range of products.

In 1967, the production of this range of items were 6.5 percent of the total production of surgical instruments in USA and in 1972, it dropped down to 5.4 percent.

There are a little over 500 establishments manufacturing surgical instruments. The major producing states are New Jersey, New York, Pennsylvania, California, Massachusetts, Connecticut and Illinois. 60 percent of the firms have less than twenty employees. 90 percent of the products made by these companies are anesthesia apparatus; corthopedic instruments; metabolism and blood pressure apparatus; transfusion equipment and other sophisticated equipment. In fact, 17 percent of these instruments are exported. The import of surgical instruments to USA as percentage of consumption is only 3 percent. But there is a big gap between demand and indigenous supply of simple instruments like scissors, forceps, needle holders, etc. and import of these items are constantly on the rise.

The Survey further States that the surgical instruments are free of customs duty on account of GSP. From the US import statistics, it is found that the imports are constantly increasing and so is the share of leading exporting countries. Indian manufacturers of surgical items have not yet explored the possibility of supplying these items from India.

The Survey has suggested that the Indian manufacturers should concentrate on items they are already producing like forceps, scissors, retractors, pincers, etc Each of these items can again be subdivided depending on its sizes, uses and shapes, like forceps with round jaw and toothed edge 15 cm long and so on. But following are the items which have the greatest demand and the Indian manufacturers should initially try to market them: 5 1/2in. hemostatic forceps kelly straight, 5 1/2in. hemostatic forceps kelly curved, 6 1/4in. hemostatic forceps rochester pean, 5 1/2in. sharp/blunt scissors, 5in. artary forceps—mosquito type—straight box, 5in. artery forceps—curved box, and scissors—Mayo type.

The hospitals who are the main user of these instruments have their own buying department or more commonly buying agents. These agents supply to several hospitals at a time. They calculate their requirements as 8—10 pieces of each instrument per year per bed of a hospital.

American Hospital supply company or Veterans Administration are some of the notable buying agents in USA who supply equipment to hospitals in different states. But it would be difficult for the Indian importer to deal directly with these agents. They should locate importers who will import these items and sell them to the buying agents. The importers will also help the exporters in getting the necessary approval regarding the quality of the instruments. The other agency to whom these instruments could be sold is the US Government. The importer should warehouse these items on behalf of the exporter because lead time for these orders is not very long.

The specifications and requirements of surgical instruments varies depending on their uses. For operating room instruments the checking is more stringent than for the hospital floor use. There are specifications laid down by US Food and Drug Administration (FDA regulation) or military specifications.

The quality testing and evaluation process consists of visual inspection, comparison study by medical personnel and physical and sterilization tests. The Government agency have laid down some procedures of testing and the hospitals perform all or most of those tests. However, the evaluation procedure varies from hospital to hospital. The following are some of the evaluation done on these instruments.

The Survey cautions the Indian manufactures to avoid the following defects which are commonly detected: (a) Instrument not constructed as specified; (b) Surface not free of burrs, cracks, corrosion or decolorization; (c) Tips not smoothly finished or not free of sharp edges. (d) Joints not free from excess stiffness or have excessive play, (e) Screw in lock not permanently set or properly assembled

There is also a procedure to be followed for packing of surgical instruments. Initially they are packed unit-wide and then there is an intermediate package which contains 6 units in case of forceps and 12 units in case of scissors. Then they are put in an exterior container which contains 96 units in case of forceps and 144 or 288 units in case of scissors depending upon the sizes. There are specifications for the boxes and the packing materials to be used whichthe exporter will have to conform to. In the costing of these products, the packing is nearly 8-10 percent of the total cost in case of US manufacturers.

Improving Thermal Power Generation

Inauguratfng a meeting of the Power Ministers of the northern region recently, the Union Energy Minister, Mr K.C. Pant, has emphasised on the States in the northern region to improve thermal generation in order to meet the power shortage in the country. They should pay special attention to increase capacity utilisation in the plants, he urged.

The Minister indicated that in the northern region, the power generation mix was 50 percent hydel and 50 percent thermal. While in respect of hydel generation, one was naturally dependent on rainfall, special attention should be paid to improve the performance of thermal stations. Areas like planned maintenance, advanced planning for spares, quicker restoration of plants from breakdowns and proper labour management should be attended to.

The Minister said that while setting up future projects hydel potential in the country should be explored. Tnis will obviate the necessity of carrying coal with its high-ash contents from the pitheads to the power stations. Thermal stations should be set up only near the coal heads. He said in this connection that vast hydro potential existed in Jammu and Kashmir and Himachal Pradesh which could take care of the needs of other areas as well.

Talking about the power generation in the northern region, the Minister held that in the first six months (April-September) of the current year, the generation had gone up by 16 percent over the corresponding period last year which was much higher than the national increase of 6.7 percent in the same period.

The Minister observed thar there had been abnormal increase in the forced outages in the units in the Northern Region, during 1978-79. The outages were nearly 23.79 percent, highest in the country, as against the national average of 15.15 percent. He called upon the States to pay special attention to this problem as also to the plant load factor which was higher than the national average.

He also urged upon the northern States to strengthen the weak links in the power grids to help smooth flow of power. Technically it was now feasible to carry power from the northern tip of the country to the southern most tip but the weak links hampered the steady flow.

The Minister also emphasised the necessity to reduce transmission losses. It was true that there were complex problems posed by rapid increase in generating capacity, it had to ensure that the loss in transmission and distribution which at present ranges between 17to 24 percent was brought to the minimum. A reduction in loss to the extent of five per cent would enable the country to save nearly 5,000 MU of energy, he added.

There was general agreement at the meeting on the enforcement of discipline while drawing power from the regional system. All unauthorised overdrawls must be stopped.

He suggested that the Central Sector Stations should be set up to balance power supply. He made it clear that the Centre would provide all help to the States to improve power generation and develop power industry. States should build up a cushion to meet power hortages in the drought year, he remarked.

He called upon the States to completely avoid wasteful and ostentatious use of energy. Many of the States have already taken steps to curb on the use ofair conditioners, decorative lighting etc. Other States should also take immediate action in this regard.

Spurt in Container Traffic

There has been a big spurt in container traffic in Bombay port since April 1979. More than 6,000 containers are being handled every month, as against an avarage of 3240 per month last year.

New equipment will be acquired soon to attract more container traffic. Bombay port has a potential traffic of more than 2.5 million tonnes of containerisable cargo. Five forklift trucks of 35-tonne capacity will soon supplement the 200-tonne mobile crane. There is also a proposal to acquire shoreside and stackyard container cranes.

The port of Bombay was put up on the world container map in November 1973 when fully container vessels started calling at the port on regular basis. After an initial lull, the container traffic started picking up and growing at a rate outpacing general growth in traffic. In 1973-74, the number of containers handled were 1220 whereas in 1978-79 the figure reached 38880.

Spurt in Railway Loading

The Railways achieved an average daily loading of 28,505 wagons of originating freight earning traffic during the fortnight ending September 30, 1979. In the previous fortnight of the month, the loading averaged 27,637 wagons.

The daily average loading during September 15-39, was marginally higher on the broad gauge at 22,695 wagons against 22,489 wagons during September 1-15, and substantially higher on the metre gauge at 5,810 wagons as against 5,148 wagons.

This level of loading was achieved despite the drop in loading during the last few days of the month on account of Puja holidays.

Moreover, the Railways lost loading of over 10,000 wagons during the fortnight on account of factors beyond their own control. The strike in the Indian Oil Company on September 12-14, and the public sector undertakings on September 14 resulted in the loss in loading of 3,800 wagons. Loading of 6,000 wagons was lost because of the reduced production of export ore in the Bailadilla—Vizag section. The loading of export ore from Barajamda through Paradip port was suspended due to no demand from September 27 to 30, causing loss in loading of 800 wagons.

International Meet on Designing and Construction of Dams

The Golden Jubilee Congress of the International Commission on Large Dams, ICOLD, was held in New Delhi recently.

The International Commission on Large Dams, founded in 1928, is a non-governmental organisation which aims at global sharing of information and experience on planning, design, construction, maintenance and operation of large dams. The Commision functions through 71 National Committees. The Central Board of Irrigation and Power, which is the Indian National Committee for ICOLD, organised the Golden Jubilee, Congress.

For more than one reason, the choice of India as the host country for the Golden Jubilee celebrations was apt. India is one of the leading countries of the world in the designing and construction of dams. In the past three decades, 150 masonary and concrete dams and 370 earth and rockfill dams have been taken up, 25 of them being over 60 metres in height. The additional storage created, or under creation, is about 140,000 million cubic metres. About 17,000 kilometres of big canals, 175 kilometres of water tunnels and about 40 hydro-electric power houses have been constructed. Some of the dams in India are rare examples of engineering skill and expertise. At the close of the Congress, the Central Board of Irrigation and Power organised several study tours to enable the participants to visit the most important dams in India.

Meetings of various ICOLD Technical Committees preceded the Golden Jubilee Congress. Presently, there are 14 Committees and two Sub-Committees, each of which has been assigned a specific time-bound task relating to a particular important aspect of large dams. The 47th Executive Meeting of ICOLD was also held prior to the Congress.

ICOLD's First Congress was held in 1933 at Stockholm, Sweden. The Commission organises, once every three years, International Congresses, wherein world experts and specialists contribute and discuss papers on important problems relating to basic research, design and construction of large dams. Twelve International Congresses have been held so far. The proceedings of these Congresses provide an up-to-date chronology of the world's tochnological advances registered in the fields of design, construction, operation and maintenance of dams.

Hike in Customs Revenue

Customs revenue till September during the current financial year registered a significant increase over collections for the same period last year.

According to figures computed in the Union Ministry of Finance, customs revenue upto September 1979 totalled Rs. 13772.8 million as against Rs. 10384 million collected till September during the last financial year.

The collection during the first six months of the current year works out to 57.6 percent of the current budget estimate for 1979-80 as compared to 45.8 percent of the actual collection during the previous year.

The collection of customs revenue during September 1979 alone amounted to Rs. 2370.7 million.

The figures do not include customs revenue collected by the Central Excise Bombay and Shillong. It is presumed that the overall performance may be still better with the inclusion of these figure.

LIC's New Business

New business of Rs. 7897 million has been completed by the life Insurance Corporation of India from April to September, 1979. The new business is under 6,68,229 policies in individual assurances business, including business procured abroad.

The Southern Zone, with completed business of Rs.2380 million and 218,781 policies, emerged on top followed by the Western Zone with business of Rs. 1937.2 million and 161,894 policies. The Northern, Western and Central Zones completed new business of Rs. 1,357.4 million, Rs. 1,124.9 milliion

and Rs. 1,047.3 million respectively. The number of policies issued by these Zones stood at 93,743; 104,895 and 87,717 respectively.

Amongst the Divisions of the Corporation, Bombay Division stood first with a sum assured of Rs.884.9 million followed by Delhi and Calcutta with sums assured of Rs. 482.5 million and Rs. 381 million respectively.

In respect of number of policies also, Bombay Division stood first having completed 63,432 policies followed by Calcutta and Hyderabad with 32,601 and 29,823 policies respectively.

Intensive Development of CD Blocks

A total of 3,500 out of 5,004 community development blocks in the country will be intensively developed by Sixth Plan and by the Ministry of Rural Reconstruction under the Integrated Rural Development Programme.

Explanining the content and significance of the Programmes of the Ministry, Mr. Bhanu Pratap Singh, Union Minister for Rural Reconstruction, said in a statement that every poor rural family was a symbol of poverty and a standing challenge to Government to eradicate rural poverty. He said that it had now become necessary to introduce programmes meant for the exclusive benefit of small and marginal farmers, agricultural labourers, rural artisans, members of the scheduled castes and scheduled tribes and other economically under-privileged groups in rural areas. He said that even though, in the past decades, the national income had been increasing steadily, the fruits of economic development had been denied to these sections of the population.

Spearheading the massive efforts is the Integrated Rural Development Programme (IRD) which is entirely meant for the poorest among the poor in the rural areas. In the year of its launching, 1978-79, IRD had identified and assisted 2.1 million families. In 1979-80, the Programme will help another 1.4 million families. The investment by the State in this Programme will go, almost exclusively, in the form of subsidies to the poorest families in the rural areas. In 1978-79, the Government of India had provided Rs. 1,050 million by way of subsidies under this Programme for assisting such families. In 1979-80, the allocation had been more than doubled giving subsidies to the extent of Rs. 2,333.4 million. Under the revised funding pattern for centrally-sponsored schemes, approved by the National Development Council, the State Governments would also be making a contribution towards financing schemes under this Programme. The IRD Programme covered agriculture, animal husbandary, soil conservation, minor irrgation, small and cottage industries and other productive activities in the rural areas.

To make more funds available to these poor families, the subsidy under IRD has been tied up with the flow of finance from nationalised banks and cooperative institutions. For every rupee invtested directly by the State in the form of subsidy, credit to the extent of three or four rupees is expected to flow from the banking sector to these families.

According to the Minister, three other new schemes will contribute significantly to improving the lot of the rural masses. These are the "National Grid" of rural godowns, "TRYSEM" the "National Scheme for Training Rural Youth for Self-employment" and the special scheme for subsidising investment in minor irrigation. Under the new scheme for rural godowns, a storage capacity of two million tonnes is espected to be created by the Sixth Plan end. This scheme will enable small producers to deposit their produce in the godowns and get godown receipts. Thereafter, farmers will be able to obtain loans from banks on the basis of these godowns receipts, thus avoiding distress sales. The outlay on rural godowns is expected to be Rs. 400 million during the Plan period.

Under TRYSEM, 40 families in every one of the 5,004 development blocks will be benefited. The scheme will enable youth, particularly from the poorest sections, to be suitably trained for self-employment, mainly in the "non-farm" sector. Care is being taken to ensure that persons trained under TRYSEM will be assisted in various sectors under the IRD Programme. The special scheme for subsidising investment in minor irrigation was launched in 1978-79. Among other benefits, this Programme seeks to provide subsidy on the Small Farmers Development Agency pattern, in areas falling outside the special programme areas.

Science and Technology

Machine for Making Cups from Dried Leaves

A machine for making cups and plates from dried leaves, has been developed by Central Food Technological Research Institute (CFTRI) at Mysore. With the help of this machine, it is possible to produce cups of different shapes and sizes at the rate of 250 per hour. A craftsman with a helper can produce about 2000 cups a day and earn Rs. 15 to 20 per day.

Adoption of this inexpensive pedal-

operated machine can offer significant advantages in the production of cups. Hundreds of families in the rural and tribal areas of the country make their living by making package forms from forest and agricultural wastes like leaf sheaths of areca palm, and dried leaves of banana, Butea (palas or Flame of the Forest) and Bauhinia (Camel Foot or Adda leaf.

Traditionally, the dried leaves are softend by moistening, stitched into cups with thin split reeds, and nested immediately without proper drying. The moisture retained in the cups eventually causes mould growth. These stitched forms are often leaky, insufficiently rigid for safe handling, and are crude. Production rate is also low (100 cups/hr). The machine designed by CFTRJ overcomes these defects and produces hygienic package forms with better strength and functional qualities.

For better strength and resistance to tear, a combination of dried leaves and paper can be used, giving a laminated structure. For higher moisture resistance, a thin film of polyethylene could be sandwiched between the two layers of the laminate.

The machine costs less than Rs. 3,000 and consumes about 300 W of power. Its adoption in rural and tribal areas, where dried leaves are abundantly available, would help increase the incomes of the economically weaker sections of the population.

Satellite Controlled Clock

The National Physical Laboratory (NPL) at New Delhi, has developed and displayed a clock which is controlled and operated via a satellite, with all the clock controls at NPL'S end. The clock gives time in year, month, day, hour, minute and second. One does not have to bother about setting the clock and about power failures. The time displayed is always the NPL's atomic time.

The NPL clock when used with Indian domestic satellite, INSAT, in 1980s will find applications in science and technology and will be of great commercial use as public display clocks.

Work is in progress to try similar clock display using NPL's standard time high-frequency broadcast at 60,30 and 20 meters which are available on a common man's radio.

Such clock displays are at present available only in a few technologically advanced countries.

Improved Distillation Still

The Regional Research Laboratory (RRL) at Jorhat has developed an improved distillation still for extracting oil from essential oil bearing plants.

The improved still yields about 90 percent of the total oil whereas the recovery of oil from the conventional still is 60-70 percent of the total oil content. It cuts down the distillation time by 30 percent. In the conventional still, distillation has to be carried out for a longer duration and the consumption of energy is more.

The improved still incorporates a new type of steam injector in the steam-jacketed still to effect better distillation of steam through the plant materials. A condenser is also fitted on the lid to ease the operation.

Containing Inflationary Pressures

The Commerce and Civil Supplies Minister, Mr. Hitendra Desai, has expressed the hope that those dealing in essential commodities would realise their responsibilities to the people and would not hoard or blackmarket these commodities, holding the public to ransom.

In a broadcast from Delhi Station of All India Radio recently, the Minister said that the Government would not allow the weaker and vulnerable sections of the society to be exploited by hoarders, black-marketers and profiteers. The Government at the Centre and in the States, he made clear, would not allow anti-social elements to put people to difficulties. Government, he emphasised, would not hesitate to use the power under the Prevention of Black-marketing and Maintenance of Supplies of Essential Commodities Ordinance, wherever necessary, in the interest of the public. Howeve , if the trading community and the business community cooperated with the Centre and State Governments to ensure uninterrupted supplies of essential commodites at reasonable prices, he added there would be no occasion for either the Central Government or the State Governments to enforce the provisions of this Act.

He assured that enough safeguards have been provided to ensure that powers under the Ordinance were not misused. Besides, the aggrieved persons would have the right to move the courts under the Constitution.

The Minister disclosed that the Union Government shared the concern of the people regarding the sharp increase in the prices of some essential commodities during the past months. The renewed building up of inflationary pressures in the Indian economy had been due to several factors including seasonal pressures, increase in prices of commodities imported from abroad and adjusments in administered prices of a few commodities. On account of very substantial increase in money supply during the past three years, the aggregate demand had been exerting pressure on prices. Supply constraints had also emerged in respect of items like cement, coal and power. The widespread

drought in several parts of the country had added fuel to the psychology of rising prices.

The Minister pointed out that the Government attached utmost importance to controlling inflation and making essential commodities available to the common man at reasonable prices. Listing a large number of measures taken to control inflation and bring about a fall in the prices of various essential commodities, he observed that steps had been taken to reduce Government expenditure and tighten bank credit. Arrangements had been made to meet the requirements of State Governments to supply imported edible oils through fair price shops. The requirements of the State Governments in respect of cereals for supply through public distribution system were being met in full. The ex-mill retail prices of sugar had been statutorily fixed. On a voluntary basis, the vanaspati industry had reduced the prices of vanaspati. The supply of controlled cloth was being maintained and all-inclusive retail price was being stamped on cheaper varieties of cloth. There had also been some improvement in the movement of goods by rail. The State Governments, from time to time, had been advised to enforce vigorously the price display order, packaged commodities order and such regulatory orders under the Essential Commodities Act. The Minister said that the Essential Commodities Act, 1955, empowered State Governments and the Union Territories to take action on various fronts to ensure fair production, supply and distribution of essential commodities. The Act gave powers to the State Governments to issue orders for display of prices and stocks of commodities available for sale by dealrs and for prohibiting withholding of sale of essential commodities to the consumers. The offences committed under the Act were cognizable and the maximum punishment may extend to 7 years. The Act also empowered the Central Government to issue special orders to prescribe summary trials for the contravention of certain orders relating to production, supply and distribution of commodities specified in that order. All offences, however, in respect of cotton, woollen textiles and food-stuffs, including edible oils, edible oil seeds and drugs were to be tried in a summary manner.

The Minister continued that the State Governments had been advised, from time to time, to make maximum use of the provisions of the Essential Commodities Act and bring to book miscreants. The State Governments had also been advised to consider constitution of Surveillance Cells which would monitor the trends of prices and availability of items of mass consumption. The State Governments had also been advised to strictly enforce the Stores Control Orders which provide for maximum stock limits to be held by the retailers, wholesalers and producers of sugar, edible oil seeds, edible oils and pulses.

The State Governments have been enforcing the provisions of the Essential Commodities Act in the past, but it was essential that these provisions are enforced more vigorously to have the desired effect, he added.

The Minister pointed out that in spite of the various actions taken so far, the prices of essential commodities had not come down to the extent of giving real relief to the common man. Government was of the opinion that the existing laws alone were not enough to control the unwarranted increase in prices of essential commodities and to bring to book anti-social elements like hoarders, black-marketeers and others.

Government had, therefore, promulgated the Prevention of Black Marketing and Maintenance of Supplies of Essential Commodities Ordinance, 1979.

This Ordinance empowered the Central Government, the State Governments and their officers, specially empowered, to detain persons to prevent them from acting in any manner prejudicial to the maintenance of supplies of commodities essential to the community. He assured that the powers of this Ordinance were not intended to be used in cases where action could be taken under other laws like the Essential Commodities Act. He said that the Ordinance was not a substitute for the existing laws. At the same time, it had become necessary, in the interest of the public at large, for the Government to arm themselves with additional powers to tackle effectively anti-social elements, he remarked.

Referring to the safeguards to avoid the misuse of the powers of the Ordinance, he said that the maximum period of detention will be six months. When any person was detained, he will be furnished with the grounds for his detention as soon as possible but not later than ten days under any circumstances. The cases of persons detained under the Ordinance will have to be referred to the Advisory Boards to be specially constituted for the purpose. The Advisory Boards will consist of a sitting Judge of the High Court concerned as Chairman, and not less than two other retired or serving High Court Judges as members. The person detained had been given the right to give a representation and also to be heard in person, he added.

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dawp 76/994

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economic and commercial news

News Highlights

ndia's Participation at Zagreb Fair

rganised by Trade Fair Authority of ndia, India's participation at the Zagreb nternational Fair has been a success. rder worth over 1.3 million dollars oth for traditional and non-traditional ems were booked during the fair. Items ch as shellac, minerals and hardness sting machines have found their way the Yugoslav market for the first time.

em and Jewellery Exports Up

dia's exports of gem and jewellery uched an all time high of Rs. 7277 llion during 1978-79 as compared to . 5595.7 million during the preceding ar, marking an increase of nearly percent. The hike was mainly due to her exports of diamonds from Rs. 6.8 million to Rs. 6929.4 million.

swing in India's Exports to stralia

dia's exports to Australia at A$ 104 lion during 1978-79 registered a step- 16 percent as compared to previous 's ed at A$ 90 million. ributed by in

Export Performance and Potential

Indo-British Economic Meet

Speaking at the inaugural session of the Indo-British Economic Committee (IBEC) recently, Mr. Hitendra Desai, Union Commerce and Civil Supplies Minister, has expressed disappointment at the extremely tardy pace of progress towards the establishment of a new international economic order. He urged the industrially developed countries to consider the problems being faced by the developing countries in a spirit of understanding rather than of confrontation.

Mr. Desai stressed the need for concentrated effort to achieve a breakthrough in this regard particularly keeping in view the disappointing outcome of UNCTAD V, the Multilateral Trade Negotiations (MTN) and negotiations for the Safeguard Code under the MTN's.

The Minister, while appreciating the impracticability of striking an arithmatical balance in the matters of trade between the two countries, emphasised the need for more intensive efforts to bring about a further growth of trade between India and the United Kingdom. He referred to the last meeting of the IBEC held in New Delhi when the UK side had sought reduction in continuing imbalance in the bilateral trade which was in India's favour. He said that the trend had now reversed to Britain's favour.

The Minister urged the Committee to discuss certain trade liberalisation and trade promotion measures on behalf of the UK Government so that it might lead to growth in bilateral trade on [illegible]. It would, in this regard, be pertinent to examine the [illegible] relevant

textiles, leather and leather manufactures, chemicals, and allied products, coffee, engineering products, sports goods, precious and semi-precious stones and carpets and footwears.

Discover India Fare Revised

Indian Airlines have offered a revised fare of US $ 300 for 15 days under its Discover India scheme to foreigners and Indian residents abroad from this month, replacing the earlier fair of US $ 200 for 14 days and US $ 275 for 21 days. Foreigners and Indians settled abroad on a visit to India and foreign nationals residing in India would be able to travel anywhere in India for fifteen days by paying in US dollars or any other convertible currency.

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which Indian exports might be facing or might face in the future. He also stressed the need for supporting promotional measures. It was particularly so, the Minister felt, in view of the negligible share of India in the total imports of the United Kingdom which has declined from 1.05 percent in 1977 to 0.79 percent in 1978. The Commerce Minister appreciated the steps taken by the Confederation of the British Industry and the Association of Indian Engineering Industry to evolve methods for close and intimate cooperation at the industry level, particularly in regard to the third country projects.

The Minister also emphasised need to improve the quality and quantity of shipping services between UK and India. He desired that developments in this regard be closely watched so that shipping should not be a constraint to shippers of both the countries.

The Minister said that not withstanding new evolving pattern of international economic relatoins, there was a great advantage in both India and the United Kingdom strengthening and revitalising the age-old ties and commercial relationships. He appreciated Britain's new commitments as a member of the European Economic Committee and its competence to play a dynamic role in shaping the views of the Community in important matters and sought its support for making the forthcoming negotiations for a new commercial and economic agreement between EEC and India a more dynamic and effective instrument for expanding economic and commercial ties between India and the Community.

During a meeting with Mr. John Nott, Secretary of State for Trade of United Kingdom, Mr. Desai referred to the textile and jute sectors where existing protectionist policies had restricted Indian exports. It was urged that further protectionist measures should not be adopted while existing protectionist policies should be dismantled as early as possible. In this connectin, reference was also made to the need for restrucuring certain industrial sectors so that complementarities in industry could be built up.

A significant aspect of exchanges at the ministerial level meeting was Mr. Nott's statement to the effect that UK would strongly oppose moves towards increased protectionism as a general policy.

India's development in export of semi sophisticated and sophisticated technology was highlighted with a view to bringing about the mutual advantage of Indo-British collaboration and cooperation in industrial projects in third countries.

It may be recalled that the Indo-British Economic Committee was set up in 1976 to give further impetus and direction to the efforts for the promotion and diversification of the trade and economic relations between India and the United Kingdom.

Trade between India and UK has been growing after a slight set-back last year. There is also growing appreciation of the complementarities of the two economics and the prospects for collaboration in third country projects. A mechanism for exchange of information and follow-up action has already been worked out between the Confederation of British Industry and the Association of Indian Engineering Industry.

The recent talks between the two countries have opened up fresh possibilities for promoting and expanding bilateral trade and mutual economic cooperation.

Indo-Japan Trade Talks

India and Japan held bilateral consultations on trade and related matters in New Delhi recently. These were the second round of talks between officials of the two countries on the subject, the first round having taken place in Tokyo in June, 1979.

The inter-Ministerial Indian Delegation to the talks was led by Mr. Mahesh Prasad, Joint Secretary in the Ministry of Commerce and the Japanese delegation by Mr. Seiichi Ohmori, Ambassador Councillor, Japanese Ministry of Foreign Affairs. The nine-member Japanese delegation included officials from the Ministries of International Trade and Industry, Agriculture and Foreign Affairs.

During the discussions, the two countries reviewed bilateral trade, with emphasis on Japan importing more of Indian manufactured and semi-manufactured goods. Among other things, the two countries also discussed the question of joint ventures in third countries and sub-contracting and Japanese investment in India for export production and domestic requirements. India also made a request to Japan to sponsor an import mission to India.

Japan is one of the major trading partners of India. In 1979 (January-July), India's exports to Japan stood at US$ 646 million and imports at US$ 438 million. In 1978, India's exports to Japan were valued at US $ 793 million and imports at US$ 730 million.

From being a primary commodity exporter, India is gradually emerging as an exporter of major value-added items to Japan. India's major items of export are iron-ore and concentrates, leaf tobacco, shellac, marine products, cashew nuts, tea, coffee, finished leather and leather products, jute manufactures, engineering goods, handicrafts, coir products, sports goods and gems and jewellery. India's major items of imports are special steel, ships, plastic raw materials capital goods equipment, plants and machinery.

Boosting Indo-Norwegian Economic Cooperation

Under an agreement, Norway will provide to India an assistance of Norwegian Kroners 106 million (Rs. 170.6 million) during the year 1980.

This agreement was signed recently in New Delhi between Mr. R. N. Malhotra, Additional Secretary, Department of Economic Affairs, Ministry of Finance, Government of India and Dr. Paal Bog, Director General, Ministry of Foreign Affairs, Government of Norway on behalf of their respective Governments. This followed consultations by the Norwegian delegation with various Ministries of the Government of India for extending Indo-Norweigian economic cooperation.

The economic cooperation between the two countries include indication by Norway of availability of grant assistance of at least N Kr. 106 million annually for the period 1980-83 for various projects and programmes assisted by them. The assistance is a total grant and would be utilised for assisting projects and programmes along with import of such commodities as paper, fertilisers, fisheries equipment, etc.

Norway has been providing valuable assistance in the fields of fisheries and health and family welfare, besides technical assistance in setting up the Tri-bology Centre at Indian Institute of Technology, Delhi and the National Institute of Oceanography, Goa.

Along with their assistance for the ongoing projects, it is proposed to take up two important projects in the fields of fisheries and forestry in 1980. The fisheries development project would be undertaken at Chaumukh village in Balasore district of Orissa and the forestry project at Chakrata in Uttar Pradesh.

Under another agreement signed in New Delhi recently between the two countries, Norway will provide financial assistance as grant of Kroner 1,200,000 to the All India Institute of Medical Sciences (AIIMS) for a study on ameobiasis. On behalf of India, this agreement was signed by Mr. N. N. Vohra, Joint Secretary in the Union Ministry of Health and Family Welfare, and Dr. Paal Bog, Director-General Ministry of Foreign Affairs. The Agreement will be in operation for about two years. Norway will provide, among other things, the equipments and apparatus required for the studies. The programme also provides for exchange of visits of medical scientists between AIIMS and the University of Bergen of Norway.

It may be recalled that Norway is providing assistance for the post-partum programme under the Family Welfare. Under this programme, Norway is providing assistance of 164 million Norwegian Kroners for the period 1977-81. The implementation of the Agreement was reviewed with the visiting Norwegian delegation. A proposal for further extension of assistance of this programme is also under consideration. The post-partum programme at present covers all the medical colleges and major hospitals at the district levels. A proposal for extending this programme to the Taluka level hospitals is also under consideration of the Norwegian authorities.

Still under another agreement for a "Plan of Operation" signed recently in New Delhi, the Norwegian Government will be providing assistance to the tune of 35.0 million Norwegian Kroners (Rs. 58.50 million) to India in the form of fertilizers during 1979.

This assistance will cover about 35,000 tonnes of urea of which one shipment, amounting to 19,032 tonnes, has already arrived at Kandla Port. The shipments of fertilizers will help in Government's efforts to make available adequate quantities of fertilizers to agriculturists during the current rabi season.

The "Plan of Operation" was signed by Mr. A. J. S. Sodhi, Joint Secretary, Department of Agriculture and Cooperation, on behalf of the Government of India and Mr. Per Gulowsen Ambassador of Norway, on behalf of the Norwegian Agency for International Development. This assistance is in pursuance of an overall Agreement signed in June 1973 between the Government of India and the Kingdom of Norway for cooperation in the economic and social development of India.

It may be added that between 1973 and 1978, India has received fertilizer worth 170.9 million Norwegian Kroners as gift.

India's Participation at Zagreb Fair

India participated successfully in the Zagreb International Autumn Fair, held recently in Yugoslavia. India's participation was organised by the Trade Fair Authority of India, a public sector undertaking in this biennial fair. As many as 37 Indian firms participated in the fair-the biggest being the public sector Hindustan Aeronautics Ltd., Bangalore, which displayed wide range of components for service aircrafts as also the models of Mig, Marut, Kiran, Chetak etc., being manufactured by the HAL.

Orders worth more than 1.3 million dollars were booked at the India Pavilion. Besides traditional items like tea, handicrafts, silks, etc., the non-traditional items for which business was booked were wire ropes (US $ 287,644), auto parts (US $ 1,56,200), hardness testing instruments (US $ 20,000) shellac (US $32,000), minerals (US $30,000), plastic moulded suitcases (US $36,000), textiles (US $1,26,000), and sports goods (US$7500). It is worth mentioning that out of these items, shellac, minerals and hardness testing instruments have been introduced in the Yugoslav market for the first time through this fair.

Display of Indian Goods in Tunisia

According to a commercial report from the Embassy of India, Tunis, Tunisia's trade and commerce has traditionally been associated with the EEC countries. In more recent years, however, she has been looking for alternative sources for not only its imports and exports but also in respect of other economic activities. While India has been regularly sending cultural troupes to Tunisia, no exhibition or display big or small, has been attempted by the mission for the last 10 years or so. Further, a recent exchange of visits between India and Tunisia has indicated a considerable information gap between the two countries especially vis-a-vis the tremendous progress that India has made in the economic, industrial and technological fields.

In view of the above considerations, the Embassy has desired to organise a display of Indian goods, both traditional and non-traditional in January 1980 combining with India's Republic Day celebrations.

The display will include light engineering items such as hand machine tools, fasteners etc., sports goods leather goods, costume jewellery, textiles in various forms, handicrafts, photographs of industrial projects, touristic and cultural attractions and different regional dresses etc. To make this display, more attractive, Embassy is adjusting the exhibition with the compaign for Indian Tea in Tunisia being organised by the Director, Tea Board of India, Cairo.

The samples and other material can be addressed to Commercial Secretary of the Embassy so that no difficulty is experienced in getting the same cleared from customs etc. The consignment may clearly be marked 'of no Commercial value'. After the exhibition, it is proposed to keep the samples in Embassy's commercial display room.

Questionaire on Exports in 1980s

The Committee on Export Strategy for 1980s set up by Commerce Ministry under the Chairmanship of Mr. Prakash Tandon, Director General, National Council of Applied Economic Research (NCAER) has issued a comprehensive questionaire. The questionaire has been addressed to the economists, trade organisations, banks, large exporters, Export Promotion Councils and other concerned with specific product groups and Federation of Associations of Small Industries.

Among others, the questionaire has sought their views on the principal factors affecting the rate of growth of world trade and particularly, the trade among the developing countries; identification of priority markets,

core export sector; effects of canalization policy in regard to export items and export assistance system and exchange rate.

The questionaire also seeks the views of agencies engaged in export business on international marketing and promotional system and joint ventures abroad.

Joint Approach Towards Development of ESCAP Region

The meeting of the Ministers of Industry in the ESCAP region (Economic and Social Commission for Asia and the Pacific) was held in Bangkok recently. The meeting was preparatory to the Third General Conference of the United Nations Industrial Development Organisation (UNIDO) to be held in New Delhi in January next year. Making his statement at the meeting, Mr. K. Brahmananda Reddy, Union Minister of Industry, called for a joint approach in efforts to reach the goals outlined in the Lima Declaration. He assured India's full cooperation in this regard.

The Minister referred to the Second General Conference of UNIDO which ended with the historic Lima Declaration and Plan of Action prescribing a blue-print for world industrial evolution, The developing countries today had a share of approximately 9 percent of world industrial production as against 7 percent at the time of UNIDO II and the target of 25 percent by the year 2000 adopted at Lima. Progress towards this goal was obviously a slow and a drastic shift in the production mechanism was necessary if the Lima target was to be achieved.

The Minister remarked, in this context, the meeting should take note of some of the important developments which had come to play a preponderant, influence over the industrial sphere during the last few years. The energy crisis and the worldwide inflation had created acute problems affecting the productive capabilities of the manufacturing countries as well as the demand for industrial goods. Industrial recession, stagflation and a curtailment of international markets were phrases commonly used these days. The developing countries already suffering from acute constraints of capital and technical wherewithals, had been further affected to the point where their very economic survival was at stake. Unemployment, low industrial yields and non-utilisation of natural resources had come to characterise their economic and social environment.

In such a situation the question was not only of a North-South dialogue nor a North versus South confrontation. Far more relevant were the avenues of cooperation and economic inter-action within specified economic regions themselves. The ESCAP Secretariat, in its paper on "Regional Perspectives for Industrialisation" rightly speaks of the building up of manufacturing capabilities within the ESCAP region. India, he observed, welcomed this approach and also endorsed it wholeheartedly. Given the right inputs of capital and technology, the countries of this region could develop rapidly and join the mainstream of world economic activity. The Minister urged that ESCAP should formulate perspective industrial strategies in consonance with the Lima Declaration and incorporate in such policy statements specific sectoral and regional targets, the achievements of which would ensure a balanced and well integrated development for the area as a whole. In particular the need was to work out certain projections for the energy requirements and ensure adequate availability for the region as a whole. It was time that the recommendations of the ESCAP meetings of Ministers in November 1977 and in January 1979, which had a primarily qualitative bias, could be established in quantitative terms also and implemented in a specific time frame, he added.

The Minister held that there seemed to be a consensus that a minimum desirable goal for the developing countries of the ESCAP region should be the doubling of their per capita income by 2000 AD. The ESCAP Secretariat had made some projections related to industrialisation and trade in manufactured products which would flow from such an objective. He hoped that the meeting would serve to identify the national, regional and inter-regional measures necessary for facilitating the achievements of these targeted projections in connection with the minimum goal for the Third Development Decade. Regional and sub-regional industrial and technical cooperation amongst member countries of ESCAP seemed to be an essential part of any optimally beneficial scheme of further industrialisation of the region. This cooperation could relate to (a) exchange of expertise and sharing of training facilities, (b) transfer of technologies, (c) joint industrial projects, and (d) expansion of trade in manufactures.

The Minister disclosed that India was keen to share her knowledge and experience with other developing countries within the framework of Lima Declaration and Plan of Action. India had acquired a considerable amount of experience and expertise and could share its capacities and capabilities in several industries with other developing countries including those in the ESCAP region. India intended to give special attention to the question of developing industial cooperation with least developed land-locked and island developing countries.

Export Trend of Indian Engineering Goods

Year	*Rs. Million*	*$ Million*	*Conversion Rate US Cent per Rupees*
1956-57	51.625	10.841	21.00
1957-58	59.739	12.545	21.00
1958-59	59.583	12.512	21.00
1959-60	77.141	16.200	21.00
1960-61	103.121	21.655	21.00
1961-62	120.067	25.214	21.00
1962-63	145.590	31.574	21.00
1963-64	208.187	43.719	21.00
1964-65	259.836	54.566	21.00
1965-66	294.081	61.757	21.00
1966-67	307.015	48.806	15.89
1967-68	410.553	54.726	13.33
1968-69	844.120	112.546	13.33
1969-70	1056.338	140.841	13.33
1970-71	1157.654	154.350	13.33
1971-72	1252.735	167.026	13.33
1972-73	1410.783	185.842	13.17
1973-74	1934.737	249.751	12.90
1974-75	3491.051	431.239	12.35
1975-76	4082.187	488.201	11.95
1976-77	5516.796	615.901	11.16
1977-78	6239.500	713.755	11.43
1978-79 (estimated)	5850.000	849.400	12.40

Performance Highlights of GSI

In intensive integrated surveys for important minerals during its last field season, 1978-79, the Geological Survey of India (GSI) has estimated additional coal resources of 195.08 million tonnes in the Parej and Kotse-Basantpur sectors of West Bokaro coalfields, and has also located sizeable coal reserves in the Hasdo Arand and Mand-Raigarh coalfields of Madhya Pradesh.

As part of the intensified effort to tap more deposits, the GSI has also estimated tentative reserves of 800.937 million tonnes of iron ore and 19.26 million tonnes of manganese ore in different parts of the country.

Of the iron ore reserves, a reserve of 275 million tonnes of hematite ore was located in the Bihar-Orissa sector, besides reserves in the Madhya Pradesh, Karnataka and Goa. While drilling for manganese continued in the leasehold areas of the Managenese Ore India Limited (MOIL) in Madhya Pradesh, Maharashtra and Orissa, drilling was initiated for the first time also in the Srikakulam—Visakhapatnam area of Andhra Pradesh, indicating a tentative reserves of 3 million tonnes of manganese ore in the region.

A scheme to promote the programme for off-shore mineral exploration is also being finalised for the period 1979-1982-83. A major achievement of the GSI during the period was the successful completion of the surface geological map of part of the continental shelf along the Ratnagiri coast. Study of the prodeltaic region of the Godavari and Krishna river system is also being continued.

Since a fully equipped oceanographic research vessel is of paramount importance in marine geological work, the Department of Science and Technology has assured that GSI will be given a major shiptime for all geoscientific work on the Research Vessel that is being procured for the Ocean Science Technology Agency (OSTA) with West German assistance by 1982. It is also proposed to acquire more coastal vessels for the purpose. Efforts are alsobeing made to train in this field geologists, geophyscists, chemists, drillers and surveyors.

GSI has also completed multi-disciplinary studies undertaken in February 1978, for the construction of a barrage across the Brahamputra with a canal on the northern bank to direct 3000 cusecs from the Brahamaputa to the Ganges system. Project report on the work carried out so far is now under preparation. Besides this, about 250 geotechnical investigations were taken up by the GSI last year in connection with various river valley projects, location of bridges, landslides and slope stability.

Several items of fundamental research were also taken up under the sponsorship of the Department of Science and Technology. Highlights of work in palacontology and stratigraphy include the discovery of a large number of vertebrates from the quaternary deposits of the Narmada Valley and specimens of marine mammals from the power tertiary beds of Kutch.

Public Sector Units Augment Output

Public sector units under the Union Department of Heavy Industry achieved in August 1979 a total production valued at Rs. 925.80 million 89 percent of the target of Rs. 1034.60 million. It shows an increase of 62.90 million over the production of Rs. 862.90 million in July 1979 and an increase of 15 percent over the production in August 1978. In addition to this, the out-turn of Engineering Projects (India) Limited for August 1979 was Rs. 118.10 million and Rs. 7.9 million more than the production in August 1978. The production in July 1979 was Rs. 86.10 million.

Cumulatively, the production in the first five months of 1979-80 was Rs. 4106.80 million, 86 percent of the target of Rs. 4737.40 million.

Actual turnover from plants of the Bharat Heavy Electricals Limited during August 1979 was Rs. 530.40 million, 94 percent of the target and Rs. 39.60 million higher than the production in August 1978. The production in July 1979 was 486 million.

Production in all units of the Hindustan Machine Tools Lmited in August 1979 was Rs. 152 million as against Rs. 148.30 million in July 1979 and Rs. 117.40 million in August 1978.

The Heavy Engineering Corporation Limited reached in August 1979 an output of Rs. 56.60 million as against Rs. 42 million in July 1979.

The production of Mining and Allied Machinery Corporation Limited for the month has been of Rs. 24.20 million, 76 percent of the target of Rs. 31.70 million and Rs. 3.70 million higher than the production of August, 1978. The production in July 1979 was Rs. 23.80 million.

The other enterprises which have registered better performance than in July are Burn Standard Limited, Braithwaite and Co. Limited, Scooters India Limited, Bharat Wagon and

Engineering Co. Limited and Bharat Brakes and Valves Limited.

Containing Price Rise

The worst is already over in the rise of prices and there are indications of further softening in prices of several commodities, particularly of kharif crops.

The rate of inflation which has, for some months, been moving up at 3 percent a month, has been brought down to about 0.5 percent according to data for the terminal weeks of August, 1979 and September 1979. During the past four weeks, the all-commodity price level has remained more or less stationary. This significant fact is indicated by the figures given below.

The overall index on 15th, 22nd and 29th September was 220.2 and 220.7 respectively and on 6th October was 22.08.

One of the essential commodities, the prices of which were agitating the mind of common man was edible oil, specially groundnut oil The wholesale prices of groundnut oil have now come down from Rs. 1190 per tone to a litle more than Rs. 900 per tonne in the wholesale-are a drop of almost Rs. 300 per tonne. Notable decline in groundnut prices has been reported from various parts of Gujarat, Maharashtra, Tamil Nadu and Andhra Pradesh.

Further downward trend in edible oils is expected in the coming weeks.

The prices of pulses have in fact been ruling at lower level than last year. In the week ending September 29, 1979 the wholesale price index for pulses was nearly 7 percent lower over the previous year.

During the past four weeks, the wholesale price indices of vegetables and fruits have gone down by 8.3 percent and 14.6 percent respectively. There has been a decline in the prices of milk, eggs and meat as well.

The price situation in respect of condiments and spices has been satisfactory. In the terminal week of September, 1979, the wholesale price indices of chillies and turmeric were 22.2 percent and 42.5 percent lower as compared to the corresponding week a year ago.

Sugar prices have registered a substantial fall and with the start of crushing season, the prices of gur are also expected to show a downward trend.

The fall in prices has been the result of various steps taken by the Government. The promulgation of the Preventive Detention Ordinance against black marketing and hoarding has created a fear among the black marketeers and hoarders, and has resulted in liquidation of inventories. The steamlining of Public Distribution System espacially in regard to the flow of edible oil has also contributed appreciably in this respect. In addition to curbs on bank credit, the seasonal factors have also contributed to bring the prices lower.

Duty on Cellulosic Staple Fibres Up

Excise duty on cellulosic staple fibres has been raised from Rs. 3.05 to Rs. 4.60 per kg. including basic, special and additional levies, with effect from October 30, 1979.

On the customs side, full exemption from basic and auxiliary duties in respect of viscose and polynosic staple fibres is being continued upto December 31, 1980.

Countervailing customs duty on viscose staple fibre has been fixed at Rs. 2.37 per kg; that on poynosic fibre would be Rs. 4.y0 per kg, all levies included.

HIL Makes Headway

For the 19th year in succession, Hindustan Insecticides Limited (HIL), a public sector enterprise, has declared dividend for the year 1978-79 and paid Rs. 1.531 million to the Government. With the payment of this dividend, the company has paid to the Government an aggregate sum of Rs. 15.30 million.

The two plants of HIL located in Delhi and at Udyogamandal (Kerala) during the year 1978-79 produced 6403 MT of technical DDT. During the year, the company's profit before taxes was Rs. 22.20 million and its net profit was Rs. 7 million.

The Company has laid great emphasis on growth and diversification under the corporate plan activities. A new corporate plan division at the headquarters of the Company started functioning during the year 1978-79 for the first time and HIL is today in a position to undertake on its own-project feasibility studies and detailed project report, for its corporate growth activities and progress to the stage of completion.

The on-going projects at Rasayani and Udyogamandal are scheduled to go on stream in 1980-81. With 1600 MTA of tech. endosulfan, 1800 MTA of tech. malathion and 5000 MTA of additional Tech./DDT plants commencing production, major component of the present Rs. 100 million import of pesticides would be available indigenously.

Reviewing Supply and Distribution of Diesel

The Ministry of Petroleum, Chemicals and Fertilisers, called recently a meeting of Supply Commissioners of eight States in the northern region to review the supply and distribution of petro-

leum products, specially diesel during the coming months. The States represented were Uttar Pradesh, Bihar, Punjab, Haryana, Jammu and Kashmir, Himachal Pradesh and Rajasthan. Union Territory of Delhi also be participated.

The meeting had been called following switch-over by the Ministry to State-wise allocation of diesel which hitherto used to be moved to various consuming centres on a zonal basis. The system was introduced for the first time in October this year.

As against the normal growth of high speed diesel sales of 8 percent to 9 percen in the past, the actual sales in 1978-79 showed the growth rate of 11 percent and, during the current year the growth rate between April and August, 1979 was an unprecedented 15 percent.

This spurt in demand for diesel was primarily due to power cuts, increased road movements of goods and drought conditions.

The actual consumption of HSD during 1977-78 and 1978-79 was 7.7 million and 8.6 million tonnes respectively. Nearly 20 percent of the total HSD consumed in the country is imported. While all efforts continue to be made for importing as much HSD as possible, availability in the world market remains difficult even at the ruling high prices which are 125 percent more than what they were in October last year. Apart from availability, there has also been a constraint in rail movement of petroleum product.

It was in this context that all State Governments were advised in September about month-wise diesel allocation from October 1979 to March 1980. The system of State-wise allocation was adopted for the first time although in the case of kerosene, this system has been prevailing for quite some time.

While making monthly allocation, State Governments have been requested to ensure that the alloted quantities are distributed equitably within the States and that sectoral priorities for use of HSD are drawn up to enable oil companies to supply the product accordingly.

For October, total quantity of 652,101 tonnes of HSD was allotted to all the States and Union Territories. Since then an additional 100,000 tonne of HSD has been allotted to the States in view of the drought conditions in various parts of the country.

Clarification Regarding Drug Order

In exercise of the powers conferred by paragraph 31 of the Drugs (Prices Control) Order, 1979 the Central Government exempted every drug manufacturing unit, with an annual sales turnover not exceeding Rs. 5 million as recorded in the accounting year preceding to the current accounting year, from the operation of paragraphs 13 and 14 of the said order in so far they relate to formulations specified in category III of the Third Schedule to the said order, subject to the conditions that

(i) The prices to be fixed for new packs larger than the existing packs shall be proportionately lower than the prices of the existing packs, keeping in view the savings in the cost of production.

(ii) The prices to be fixed for new packs smaller than the existing packs shall be fixed pro-rata on the basis of the prices of the existing packs.

(iii) While fixing or revising the prices, a report alongwith the details showing how the price has been fixed or revised, as the case may be, shall be sent to the Central Government within a week of such fixation or revision of the price.

A question has arisen as to whether the prices prevailing at the time when the unit was exempted from the operation of certain provision of the Drug (Prices Control) Order, 1979 will continue to prevail consequent on the unit exceeding turnover of Rs. 5 million. It is, hereby, clarified that, as and when the total turnover of the concerned drug manufacturing unit exceeds Rs. 5 million per annum, the exemption from the provisions of paragraph 13 and 14 of the order would cease to apply. Such units will be required to furnish the details of calculations regarding ratail price in Form 3 even in respect of their existing products. The concerned units should furnish full details in Form No. 3 to the Bureau of Industrial Costs and Prices under intimation to the Ministry, Petroleum Chemicals and Fertilisers in respect of all their formulations.

Pick-Up in Railway Passenger Earnings

The total earnings of the Railways in respect of passengers, goods and other items in the first six months of the current financial year (April to September, 1979) amounted to Rs. 11349.6 million as compared to Rs. 10489.6 million in the corresponding period last year.

The increase on account of passenger earnings and goods traffic was Rs. 396.3 million and Rs. 475.7 million respectively. There was a shortfall in earnings to the extent of Rs. 12 million under the heads 'Other Coaching' and 'Sundry'.

The passenger receipts in the six months are showing an upward trend and are Rs. 62 million more than the targeted earning for the year 1979-80. The overall shortfall in the earnings

to the extent of Rs. 104 million for this period as compared to revised target for the current financial year is mainly on account of a fall in the earnings in respect of goods traffic.

Lignite-based Thermal Power Project in Kutch

The Planning Commission has accepted the feasibility of a scheme for the installation of two units of 60 MW lignite-based thermal power station at Panandhro, in the Kutch area of Gujarat. The scheme which is to cost Rs. 712.70 million has been examined in the Central Electricity Authority and recommended by the Department of Power. The Planning Commission has also accepted the inclusion of the scheme in the Gujarat's Five-Year Plan (1978-83) and it is being taken up for implementation during the current financial year.

The project envisages installation of two units of 60 MW turbo generators with complete boilers, instrumentation and switchgears, lignite handling system, ash handling system, water treatment plant, sweet water and saline water supply arrangements and other associated auxiliaries.

The supply of plant and equipment will be from indigenous sources.

The Department of Science and Technology has also given clearance to this project from the environmental angle.

Science and Technology

Indian Space Technology Moves Forward

India has built up a strong base for space technology in the country over a period of just one and a half decade. This indeed is a measure of the skill and dedication of the young Indian scientists and the sophistication achieved by various industries in the country.

Even before Thumba in Kerala was dedicated in 1968 to the world's scientific community for peaceful experiments as an international facility, Indian engineers scored a notable first in launching the first sounding rocket. That was in 1967 and the diameter of the rocket was just 75 mm. But the fundamentals had been mastered. Bigger and more sophisticated rockets followed.

Today, they have fabricated a two-stage rocket, called Rohini-560, the diameter of the first stage being 560 mm. By 1969 Indian propellants were used. A propellant fuel complex was set up. Four types of sounding rockets are now in operation. Three more are under development. They used to probe the peculiarities in the upper atomsphere and ionosphere near the magnetic equator passing near Thumba.

The sounding rockets have also been used to flight-test sub-systems of bigger rockets. Recently, a Rohini-560 was guided and controlled from the ground. This was done in Sriharikota, which is becoming India's Cape Canaveral.

Sriharikota (SHAR) is a coastal island near Madras. Rockets launched from there can take advantage of the earth eastward spin. A modern control centre, complete with comp and closed-circuit television is coming up there. A static test and evaluation complex has been set up. A solid propellant space booster plant has also been constructed to cater to the fuel needs of rockets. As for tracking and telemetry, there are already facilities which are being augmented. Three radars are coming up. A down-range station in the Andaman Islands is also planned.

SHAR will launch next year India's first rocket (SLV) that will put a 40 kg. Rohini-1 technological satellite into an earth orbit. SLV will be a four-stage solid rocket. The Andaman station will collect data on the separation of the fourth stage over Bay of Bengal. Facilities in SHAR are being progressively upgraded and expanded to launch synchronous satellites eventually.

For launching synchronous satellites, liquid rockets would be necessary. In order to acquire the knowledge in this field, Indian engineers have agreement with a French firm making high-thrust liquid rocket motors for the European launcher Ariane. In return, pressure-transducers, made in Bangalore, are being exported for use in Ariane.

In a significant project, India is making a synchronous experimental communication satellite to be put in orbit by the third developmental flight of Ariane in May, 1980. It will be a 616 kg. spacecraft and will have three-axis stabilisation, the latest technique yet to be widely adopted in the world. The crucial apogee motor of the satellite will "kick" it to the current orbit, 36,000 km above the equator. The project is called Ariane Passenger Payload Experiment (APPLE).

Before the fruits of APPLE are reaped, India would have launched her second experimental earth-orbiting satellite. It will be launched by the Russians as was Aryabhata, the first Indian made satellite. Aryabhata II, also called SEO for Satellite for earth observations will have Indian made two multi-band TV cameras and a microwave radiometer. The former will be useful in studies in meteorology, hydrology and forestry. The latter will study the sea state, water vapour and liquid water content. Efforts are being made to analyse the data quickly, Imagery analysis experiments have been done in Kerala, Andhra Pradesh and Gujarat.

Aryabhata I, slated to orbit only 6 months, when it was launched in 1975, is still in orbit and in good shape. One of the power lines to the experiments on board failed after five days in orbit, though it was not the main aim of the mission.

Meanwhile, preparations are being made to work with a synchronous satellite, called INSAT I, which will be made abroad. NASA has been selected to launch the first satellite and its spare. Subsequent satellites will be made in India. INSAT will be used to improve telecommunications, weather study and television broadcast.

Elaborate testfacilities are being established. They include hot and cold chambers for sub-system tests, a thermo-vacuum chambe: and a wind-tunnel. Facilities are also being constructed to make chemicals and fuels. The technology to make ammonium perchlorate directly from common salt in an unconventional method has been perfected and a factory will be commissioned in Kerala a for the purpose. A Propellent Fuel Complex also been set up to make special chemicals.

While space applications have naturally been given pride of place, space sciences that are basic to the projects have not been neglected. The Equatorial Electrojet and the peculiarities in the upper atmosphere reportedly connected with the monsoon are some of the areas of interest where sounding rockets have been used. The Indian Space Research Organisation has encouraged over thirty universities and other educational institutions to undertake research in space sciences. It is noteworthy that the forthcoming Spacelab of NASA would have an Indian experiment on solar and galactic cosmic rays.

The Theme Pavilion at IITF'79

One of the star attractions in the India International Trade Fair (IITF' 79) is the Theme Pavilion which has been set up in a big way with the assistance of the National Institute of Design, Ahmedabad. The pavilion emphasises the theme of the fair 'Trade for Prosperity'' and reflects the multi-directional progress and the immense trade potential acheived by the country since independence. Here, the projections highlight the rapid achievements and growing potentialities of the country's economy in such vital sectors as steel, power, transport, irrigation, communications, fertilizers, coal, chemicals agro-based industries, science and technology, plant and machinery, oil and natural gas, heavy electricals, electronics, ship building, small scale and cottage industries etc. As a result of constant striving for excellence, the country has forged ahead in production technology and trade. The abundant natural resources and impressive infrastructure covering skilled and technically trained workforce developed in the country provide a solid base for further growth and diversification.

The core section of the Theme Pavilion 'UDYAM' (Endeavour) depicts through audio-visuals India's industrial endeavour in all its facets. It shows how the Indian industry over the last 30 years has grown from a small stature into a vital and dynamic sector of the Indian economy. India now manufactures a wide range of sophisticated items from sewing machines to ships from handlooms to power generators and its products now compete with the best in the overseas markets in terms of quality, cost and service. Indian industry now accounts for more than a quarter of the national income as against a mere 5 percent before 1947.

The panorama of India's progress in diverse fields has been depicted in about two dozen sections of arractive panels put up in the pavilion. Harnessing the atom for peaceful purposes is the subject matter of one such section. Besides setting up two nuclear power stations. Indian scientists and technologists are putting nuclear energy to the service of medicine and agriculture.

India achieved the world record by bringing an additional 2.8 million hectares of land under new irrigation last year. An exclusive set of panels illustrates the country's strategy of harnessing surface and ground water resources and pushing through major and minor irrigation projects which will make the deserts bloom.

The display in another section devoted to self-sufficiency focuss attention on the country's efforts to achieve output expansion and product diversification. It explains through attractive projections how India has achieved self-sufficiency in the manufacture of plant and machinery for major industries like cotton textiles jute, sugar, cement, paper, chemicals etc. About 6,000 factories are churning out a remarkable range of fine quality industrial products, making India the tenth largest industrial nation in the world.

Another section is devoted to the aircraft industry of India bringing out the variety of aircraft—from supersonic fighters to trainer and agricultural spraying planes—that are now produced in the country. Similarly, India's ship building industry which has grown over the years both in size and sophistication has been projected in another section. With four major shipyards at Calcutta, Vishakhapatnam, Bombay

and Cochin, a wide range of vessels are built indigenously. India is the second largest ship-owning country in Asia and ranks 16th in the world. A set of panels also tells the story of India's self-sufficiency in the manufacture of all its railway equipment. Covering a distance of 61,000 kilometres, India has developed the largest railway system in Asia and the fourth largest in the world. Th. country has also made impressive headway in the export market for railway equipment. On display in another section is the advancement made by the Indian automaobile industry wnich now manufactures annually 65,000 trucks and buses, 40,000 cars and 330,000 automotive two-wheelers.

That India has been forging ahead in the production of steel has been depicted in another section whch illustrates how the steel industry has been making rapid strides. India has today, six integrated steel plants with a capacity of over 13 million tonnes. By the mid-1980s, it is expected to be raised by almost 50 percent. The country produces the cheapest steel in the world and its steel technology is now internationally recognised. Mother machines produced in the country form the theme of yet another section displaying the wide range of plant and machinery indigenously manufactured today.

Almost 90 percent of India's power generating equipment is indigenously manufactured at present. The country has built up a power generating capacity of 30,000 MW-the fifth largest in the world. It is planned to be increased by 50 percent in the next four years. The power generation as well as the export performance of the industry is vividly shown in this section.

India has entered the space age in communications technology. INSTAT-the Indian National Satellite-will be positioned over the country in 1981 and establish links with the remotest hill and desert areas. Complete telephone exchanges and telex systems are now manufactured in the country and are exported to many countries.

The other panels in the pavilion are devoted to the substantial progress achieved in the fields of coal production oil and natural gas, fertilizers, chemical and pharmaceuticals, textiles, village crafts and industries, dairy products and small scale industries.

India exports over 5,000 different items to various countries all the world over. Its exports have not only been going up rapidly but its export range has also been considerably diversified to include a number of engineering goods and non-traditional items. Between 1972 and 1977, India trebled its exports. Indian consultancy services are sought after in several fields by various countries. The country is also increasingly participating in joint ventures abroad-thanks to the technical workforce available in the country today which is the third largest in the world next to USA and USSR. An integrated picture of the growing export capabilities has effectively been projected in a separate section.

An Information Booth has also been set up at an important section of the pavilion to provide information on various aspects of India's trade and industry.

Programme of India's Participation in the Forthco ming Trade Fairs/Exhibitions Abroad

Event	Dates
Indian Exhibition, Dubai	January 15—24, 1980
Indian Exhibition, Manila (Philippines)	February 23—March 2, 1980
Cairo International Fair, Cairo	March, 8-32nd 1980
Leipzig Spring Fair, Leipzig (GDR)	March 9—16, 1980

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economic and commercial news

ews Highlights

dian Mica for USSR

nder a contract recently signed for e export of 2000 tonnes of mica lued at Rs. 40 million to USSR, e Mica Trading Corporation of dia Ltd. would complete the supply thin this year

lian Cycles to Italy

e Punjab pavilion at the India ernational Trade Fair, 1979 has gged an order for the supply of ycles valued at Rs. 600,000 from Italian firm. This order is only a al order and is likely to be followed with a series of major orders sequently.

ian Shoe Uppers to GDR

der a contract recently concluded ween the Stata Trading Corporation M/s. Interpelz Export Import bH, Leipzig, the STC would supply ,000 pairs of leather shoe uppers ued at Rs. 52.2 million during uary to June next year.

ian Carpets for FRG

e Punjab Small Scale Industries rporation at IITF '79 has booked

(Contd. on page 2)

Export Performance and Potential

Brisk Business at India International Trade Fair 1979

The India International Trade Fair 1979 currently going on in New Delhi has been designed to promote trade between India and the rest of the world and to encourage new investment by Indian firms in joint ventures abroad. As many as twenty one foreign countries representing various regions of the world are taking part in it. With a view to promoting optimum trading opportunities at the fair,, visits of a large number of foreign delegations have been organised by TFAI. Contracts worth over Rs. 1000 million have already been signed at the Fair since its inaguration on November 10, 1979.

A contract for the export to USSR of 2000 tonnes of mica valued at Rs. 40 million has been signed during the Fair. Under the contract, the Mica Trading Corporation of India would complete the supply within this year. Under another contract signed at the Fair, the MMTC would supply mice worth Rs. 90 million to the German Democratic Republic.

An Italian Buyers' Delegation has finalised a contract for bicycles alongwith additional accessories worth Rs. 600,000 with the Punjab State Industries Corporation which has organised the participation of Punjab Government at the Fair. The delegation also evinced keen interest in other light engineering products displayed in the pavilion such as hand tools, automobile accessories and light electrical items. They also showed interest in handicrafts and hosiery items.

M/s Interpelz Export-Import GmbH, Leipzig (GDR) and the State Trading Corporation of India Ltd., have concluded a contract for supply

an order for woollen carpets valued at Rs. 100,000 from the trade delegation of Federal Republic of Germany, which was on a visit here recently. This being a trial order, the bulk order is to expected to follow up in due course.

Trade Protocol with Seychelles

The State Trading Corporation of India has recently signed a trade protocol with the Seychelles delegation which recently visited India International Trade Fair 1979. The STC would supply construction material and other goods to Seychelles worth about Rs. 50 million in the enusing two years.

India to Supply Coffee to USSR

Under a trade agreement recently signed between India and USSR, India would supply 15,500 tonnes of green coffee worth Rs. 500 million to Soviet Union during 1980. India would aslo be supplying 5,000 tonnes of castor oil worth Rs. 58 million to the USSR early in 1980, under a contract which has since been signed.

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of 568,000 pairs of leather shoe uppers valued at Rs. 52.2 million in the first six months of 1980. The contract was signed by Mr.E. Schorsch, Deputy Director General, Interpelz and leader of the visiting GDR delegation on behalf of M/s Interpelz and Mr A.K. Sen, Group Executive on behalf of the State Trading Corporation of India Ltd. Dr.S.C. Bhattacharjee, Chairman and Mr. M.N. Mishra, Executive Director, State Trading Corporation of India Ltd., Mr. H. Birch, Ambassador of GDR in India and Mr. D. Becker, Commercial Counsellor of GDR in India were also present during the signing of the contract.

The Punjab Small Scale Industries Corporation (PSSIC) represented in the Punjab pavilion has booked an order for woollen carpets valued Rs. 100,000 from the trade delegation of the Federal Republic of Germany which visited the Fair. According to PSSIC, this is only a trial order and the bulk order will follow shortly.

The visiting Seychelles delegation signed a Trade Protocol with the State Trading Corporation of India (STC). The delegation was headed by Mr. Maxime Fayon, Permanent Secretary, Department of Works, Government of Seychelles. Under the Protocol, which is valued upto 1980, the STC has been appointed by the Seychelles Ministry of Planning and Development as its permanent agent in India for the supply of quality goods at competitive prices on the basis of service fee of two to three percent of the fob value of goods exported.

India and USSR signed a trade agreement at the USSR pavilion at the IITF. The agreement which was signed by the Russian Trade Representatives and the Coffee Board of India envisages a contract for 15,500 tonnes of green coffee worth Rs. 500 million to be supplied to the USSR during 1980. It may be mentioned that 'Index Kofe', a Russian word fo Indian coffee had proved extremely popular at the Indian National Exhibition held in Moscow during August, 1978. The display at the pavilion at that time had attracted visitors not only towards aroma of coffee in the cup but also towards the green coffee beans.

The Soviet Union is also buying 5,000 tonnes of castor oil worth Rs. 58 million from India for shipment early in 1980. A contract to this effect was signed formally in the USSR pavilion at the Fair between the representatives of the Soviet foreign trade organisation and the State Trading Corporation of India. The shipment of castor oil is expected to be effected during February-March, 1980.

A Buying Delegation from Bulgaria has concluded contracts for the purchase of Rs. 15 million worth of Indian ready-made garments, jeans, jewellery and consumer durables.

Zambia has also offered to set up joint ventures with Indian collaboration in their country for the manufacture of ball and roller bearings and has shown interest in the import of excavators and all purpose fans displayed at the fair.

Indo-EEC Joint Commission Meets

Prospects of holding an Indo-EEC Industrial Conference to explore potential areas of collaboration in third countries and setting up of an Indian Trade Centre in Brussels were discussed during the seventh session of Indo-EEC Joint Commission meeting which concluded recently in New Delhi.

The Indian delegation to the talks was led by Mr. A.S. Gill, Commerce Secretary and the EEC delegation was headed by Mr. Jos Loeff.

The last Joint Commission meeting had decided to organise a suitably timed conference between EEC and Indian interests in the engineering, construction and consultancy sectors to explore potential areas of collaboration between them in third countries. Subsequently, it was considered advisable to wait for an assessment of the outcome of an Indo-EEC Seminar organised by the Engineering Export Promotion Council in New Delhi in February, 1979 before going ahead with preparation for the larger industrial conference. As decided at the Joint Commission meeting, details of India's capabilities in the field, its estimated complimentarities and past experience of cooperation with developed countries in third country ventures have already been sent to the EEC. This matter was pursued further during the meeting. As decided by the Indo-EEC Joint Commission, a proposal to set up an Indian Trade Centre in Brussels has since been accepted by the EEC in order to promote expansion of trade with India with particular emphasis on augmenting India's exports. The centre will have advisers on programmes in respect of selected commodity groups and four of them have already been recruited.

Utilization by India of EEC assistance for participation in fairs was another topic which came up for detailed discussions in the Joint Commission meeting. In the past, India had been pressing the EEC to adopt a more flexible attitude in the matter of selection of fairs and extent of participation and accordingly under the liberalised terms agreed to by the latter, assistance would now be available for participation even in fairs outside the EEC and no limitations would be placed on size of fair stands and number of fairs, provided the total assistance remained within the overall budget allocation for the country. The details of India's participation in fairs during 1980s were discussed during the recent deliberations.

Both in terms of imports and exports, EEC is India's largest trading partner. In 1978-79, (April-August), India's exports to EEC amounted to Rs. 5000 millon and imports during the same period were estimated at Rs. 7860 million. In 1977-78, India's exports to EEC are estimated at Rs. 13,900 million and imports at Rs. 15,180 million.

However, the disappointing aspect is that the imports of EEC from India has remained static between 1977-78. Consequently, India's share in the global imports of EEC declined from 0.96 percent in 1977 to 0.93 percent in 1978. At the same time, EEC exports to India, which constituted 0.85 percent of their global exports, registered a sharp increase of as much as 30 percent partly because of the liberalization of Indian imports.

The major items of India's exports to the EEC include textiles, handicrafts, gems and jewellery, leather, tea, engineering goods, etc.. Important imports from the EEC include machinery, precious and semi-precious stones, transport equipment etc.

Indian Turn-key Project in Somalia

The first Indian turn-key project of manufacturing aluminium utensils from scrap was inaugurated by the President of Somalia, Major General Mohamod Siad Barro, in Mogadiscio recently on the occasion of the 10th anniversary of the revolutionary day of Somalia.

The plant, equipments and raw materials for the first six months were supplied and the installation completed by the Indian firm, Pnilco Metal Industries Private Ltd., of New Delhi, all at a cost of US dollars 523,000.

The Somali President and the Minister of Industry and other high Somali and foreign dignitaries were shown the functioning of the machinery. The Somali authorities highly appreciated Indian technology and the efforts of the Indian engineers on site.

Udyam : Theme Pavilion at IITF 1979

"Udyam", the Theme Pavilion at the India Internatioal Trade Fair, 1979, is an introduction to the entire spectrum of industrial achievement presented at Pragati Maidan. Udyam means striving and the name takes its inspiration from Rabindranath Tagore's vision of an India "where tireless striving stretches its arms towards per-

fection". The pavilion is a capsule of achievements and aspirations at every level of Indian industry.

At Udyam's main entrance, the visitor is greeted by India's dramatic achievements in agriculture, nuclear energy, space research and technical education. The pavilion highlights India's command of the most sophisticated technologies as well as the importance of its age-old skills in the contemporary context of production and employment opportunities. This juxtaposition, so characteristic of the Indian economy, is dramatised throughout the Udyam pavilion. Large-scale and cottage industries, rural technologies and advanced nuclear and electronic know-how, all blend in the free flow of exhibits which convey the message of Udyam irrespective of which route the visitors take in this sojourn through the history of the India's industrial endeavour since Independence. The pioneering role of India's technical and industrial capabilities in fostering economic cooperation with other developing countries is also demonstrated.

Each section of the exhibit is identified by its muted colour scheme. The exhibits comprise panel displays, models, films, industrial and craft objects collected from every corner of the country and a spectacular 6 projector audiovisual presentation which serves as a powerful reinforcement of the pavilion's message. The audiovisual show also provides glimpses of industrial landscapes, interiors and processes. Other highlights include films, which the visitor can operate with the flick of a switch on transport, power, steel and small-scale industry; an all-swadeshi Hindustan computer of advanced capabilities, models of the KVIC gobar-gas plant and the fifth frigate manufactured by Mazagon Docks for the Indian navy, a solar cooker from Baroda and a special globe to demonstrate the far reach of India's industrial know-how through joint ventures, turn-key projects and traditional and non-traditional exports. A unique visitors' service provides information on industrial opportunities at home and abroad and also features the enormous range of industrial and technical publications available in India. There is an emphasis throughout on India's vast technical work-force, the third largest in the world.

The message of the exhibit is summarrised in a special publication by the Trade Fair Authority of India which serves as both introduction and reminder for important visitors to the pavilion, including delegates to the forthcoming UNIDO III Conference in January 1980.

The pavilion's symbol to depict industrial flowering, is an industrial cog wheel which holds a chakra in the form of a lotus blossom. The cog wheel is transformed into a linear motif to link all display panels in a manner characteristic of Indian design.

The structural design for the Udyam Pavilion is an economical integrated moduler display system for two-dimensional and three-dimensional exhibits with built-in lighting and wiring facilities. Allowing considerable flexibility in use, the system can be 'knocked down' for storage, transport, and reassembly. Another feature of the pavilion is three enormous metal umbrellas suspended to break the height of the pavilion and thus to emphasise its contents. They will also help control light and provide an acoustic barrier.

The Udyam theme pavilion has been created by the Trade Fair Authority of India on behalf of the Ministry of Commerce and the Ministry of Industry. The pavilion was designed and fabricated by the National Institute of Design, Ahmedabad. Over 35 creative teams comprising NID staff, students, graduates and consultants have been working throughout the country over the past 4 months to bring together this powerful statement on India's emergence as an industrial power striving to achieve a better life for its citizens.

Indo-Botswana Rail Talks

The possibility of India providing experienced railway personnel to the Government of Botswana to run their rail-road system, was discussed recently in New Delhi when Mr. N.T.K. Mmono, Permanent Secretary, Ministry of Works and Communications, Botswana, met the Railway Board Chairman Mr. M. Menezes and other Memebrs of the Board.

Welcoming Mr. Mmono, the Chairman, Railway Board, referred to the cordial relations between the two countries and said that the expertise developed by the Indian Railways in various fields, would be made available to Botswana as and when needed on mutually agreed terms. The Chairman also indicated that Indian Railways would be willing to train Botswana railway personnel in Indian training establishments, if so desired.

Mr. Mmono said that Botswana will need Railways personnel in various

disciplines for railway operations and management and they would like to get the necessary manpower from a friendly country like India.

Details pertaining to Botswana's requirement of railway personnel and the *modus operandi* for obtaining these services would be discussed with Rail India Technical and Economic Services Ltd., a public sector undertaking under the Ministry of Railways.

Mr. Mmono visited Research, Designs and Standards Organisation at Lucknow, the Integral Coach Factory at Perambur and engineering works of the Ghat section near Bombay.

Mr. Mmono was accompanied by Mr. O.P. Nayar, Railwoy Adviser to the Government of Botswana.

India at Hardware Show in Chicago

The 34th annual National Hardware Show was held in Chicago during the month of August this year. This is the largest show in USA, held every year in Chicago. Visitors from USA and all over the world representing hardware lines, who visited this show, were estimated over 50,000. This year there were 2,500 exhibitors—some 300 more than last year—which included foreign exhibitors from such countries as Korea, China, Japan, Mexico, Sweden, Great Britain, Brazil, West Germany and India.

For the second time, the Engineering Export Promotion Council participated in this show. The Council received encouraging response from the Indian manufacturers and could easily sell the entire 1700 square feet of space to the interested exporters. There was altogether 19 participants. A wide range of hardware items, like wrenches, spanners, screw drivers, vices, taps and dies, fasteners, brass door and sanitary fittings, axes, hinges, torque multipliers, valve and pipe fittings were displayed by the Indian firms.

Buyers from different parts of the world visited this show to examine the quality of Indian exhibits and spoke favourably of the quality of the items on display. Special care was also taken by EEPC Chicago Office and constant follow-up was made with the drayage agents and the exhibitors to ensure the safe and timely arrival of the exhibits.

Most of the participants had deputed their senior executives who were present during the show hours to attend to the enquiries of the visitors. Altogether business worth $3.4 million was concluded during the show and 385 enquiries were received which, after follow-up, are expected to result in approximately an additional $2.4 million worth of orders.

The manufacturers of the following items should seriously consider participating in this show next year as lot of interest was taken by the foreign buyers in these items : fans, fasteners, cookware, cast iron stoves, masonry drills, hammer drills, farriers anvils, load binders and forged hooks.

The EEPC Chicago Office has made the following suggestions for India's future participation :

(a) Next year a wider range of exhibits should be displayed. Efforts should be made to convince fastener and fan manufacturers to participate in this show.

(b) The exhibits of each participant should be shipped under one bill of lading to avoid very expensive clearance charges, etc.

(c) Despite repeated requests, sufficient advance information on the precise nature of exhibits were not received in time to enable them to determine whether the exhibits required wall or table space. This information is imperative in the initial stages of their discussion with designers.

(d) All consignments should be sent freight "Prepaid" to Chicago.

(e) The invoices, GSP forms and other necessary documents should be sent well before the consignment is airfreighted because this year several consignments at the airport could not be cleared for want of documents.

(f) The number of participants booking 2.5 square metres should be kept to as minimum as possible and the booking of space by the participants should be in keeping with the number and size of the products to be displayed by them.

Facilitating Opening of Non-resident Accounts

Sixty banks in India have been authorised to open "non-resident (external) account" designated in Indian rupees. Persons of Indian nationality or origin abroad may transfer funds from the country of their residence or any country other than the Bilateral Account Group countries (USSR, Poland, East Germany, Czechoslovakia and Romania) to one of the sixty banks in India. Such accounts, which are to be opened through banking channels, can be operated without prior reference to the Reserve Bank.

With a view to encourage non-resident Indians to open such accounts, the Reserve Bank has offered numerous advantages. These are :

1. Income accruing on balances in the accounts is free of Indian income-tax.

2. Balances held in the accounts are exempt from wealth tax.

3. Account-holders have the freedom to repatriate the balances, along with the interest accrued thereon, outside India at any time without reference to the Reserve Bank. (In the case of external accounts opened by persons resident in the Bilateral Group countries, third country transfers are not permitted).

4. Interest accruing on the accounts, as also interest/dividend on Government securities/units of the Unit Trust of India purchased out of funds in the accounts, may be credited to the accounts freely by authorised dealers.

5. Debits to the accounts for local disbursements are freely permissible.

6. Purchases of units of the Unit Trust, Government securities (including securities issued by any State Government) and National Plan Savings certificates from out of the balances in these accounts can be made freely.

7. Sale/maturity proceeds/repurchase price of the units, securities or certificates originally purchased out of funds in the accounts can be freely credited to the external accounts by authorised dealers,

The facility of opening the account is also available to Government servants posted abroad on duty or deputed abroad on assignments with foreign governments or regional or international agencies like the World Bank, IMF, WHO, ESCAP. Officials of State Governments and public sector undertaking posted or deputed abroad are also entitled to the benefits.

Small Scale Sector Exports Up

There has been steady growth in the export of goods produced by small scale sector. This sector exported goods worth Rs. 8885 million, 16.2 per cent of the total exports from the country in 1977-78.

The small industries contributed bulk of exports in items like marine products (83 percent), cashew kernels and cashewnut shell liquid (91 per cent), woollen hosiery (90 percent), synthetic products, garments made-ups and knitwear (80 percent), sports goods (100 percent), EI tanned hides and skins (60 percent), finished leather and leather products 60 percent and agarbatties (84 percent). In non-traditional items, the exports were worth about (40 percent.)

Since 1971-72, there has been a six-fold increase in exports from the small sector.

Industrial Growth and Diversification

Higher Availability of Steel

The overall availability of saleable steel during April-September, 1979, has been 8.2 percent higher than the availability in the corresponding period of last year. More than 570,000 tonnes of imported steel arrived in the various ports during the first six months of the current financial year.

Nearly 170,000 tonnes of steel imported under the buffer scheme is currently available at different ports for delivery to customers. During the next five months, about 111,000 tonnes of imported steel will be arriving for distribution every month.

This was indicated at a recent meeting of the Regional Iron and Steel Controllers, in Hyderabad, presided over by Mr. Mantosh Sondhi, Secretary, Ministry of Steel, Mines and Coal. It was indicated at the meeting that substantial arrivals of steel against the imports programmed earlier had started and this would considerably ease the availability situation.

Supplies of steel to the State Small Scale Industries (SSI) Corporations during April-September this year, were 206,000 tonnes, representing an increase of 73 percent in supplies over the corresponding period of last year.

Supplies of steel from the Steel Authority of India Limited (SAIL) to exporters of engineering goods in April-September, 1979, were 90,954 tonnes as against 68,700 tonnes in April-September, 1978—an increase of 32 percent in supplies to the engineering export sector from SAIL alone. In addition, 20,000 tonnes were supplied to this sector by the Tata Iron and Steel Company (TISCO) and the Indian Iron and Steel Company (IISCO).

The meeting, which reviewed the activities of the Iron and Steel Control Organisation, besides the overall availability position, decided on further steps also to penalise diversion of steel. Several instances of diversion of pig iron and steel offered on preferential

basis for manufacturing use only were mentioned at the meeting. Cases of bogus units drawing steel from SSI Corporation had been detected earlier by the Regional Controllers of Iron and Steel. The meeting also noted that in all such cases further supplies had been debarred under the Iron and Steel Control Order and decided on further steps against units indulging in such practices, as also to check the holding of excesssive stocks based on regular inventory surveys covering a number of major consumers.

Stabilising Supply of Diesel

While supply and distribution of high speed diesel had comparatively stabilised during the last month, the Ministry of Petroleum, Chemicals and Fertilisers have since urged representatives of six northern states and Union Territory of Delhi that still more effective control will have to be exercised by them during the coming months to ensure equitable distribution of the product to various priority sectors in view of difficult availability and exhorbitant prices of HSD in the world market.

State Secretaries and Supply Commissioners of Punjab, Haryana, Himachal Pradesh, Jammu and Kashmir, Uttar Pradesh and Rajasthan were told that the Union Government was keen to see that economic activity in vital sectors did not suffer for want of diesel but, the States will have to manage within the allotted quota which will not exceed more than 5 percent over their consumption last year.

This should be possible by rationalising distribution, fixing priorities for agriculture, industry, transport, etc. and by tightening controls that will not permit either any wastage or misuse of the scarce product.

The meeting attended by Chief Executives of oil companies and their state level oil supply coordinators as well as by a representative of the Railways was urged to effect greater coordination between state authorities and oil companies on one hand and among oil companies themselves to prevent any local and temporary shortages occuring anywhere. In this context, oil companies were asked to consider integrating their facilities and to pool their resources to ensure availability of HSD at all consumer centres.

State representatives recounted various measures adopted to regulate efficiently distribution and to curb malpractices. These measures were being adopted under the Essential Commodities Act, the meeting was told.

Regarding movement problems, the Railway representative informed that during October despatches had matched allotment of HSD to the States and assured the Railways would be in a position to maintain the present level of despatches.

A quantity of 653,101 tonnes of HSD was allotted for October to all States and Union Territories. Since then an additional 100,000 tonnes of the product had been allotted to them in view of the drought conditions in various parts of the country.

Stepping Up Mineral Exploration

In a major drive to step up the tempo of mineral exploration, the Geological Survey of India (GSI) proposes to intensify the search for important minerals including copper, lead, zinc, iron ore, manganese and coal, during the current year. Under its annual programme for the field season,1979-80, finalised recently, the GSI will take up 161 items of mineral investigations, including investigations for tin, tungsten, gold and potash.

The geological mapping programme for the year gives priority to the speedy coverage of the North-Eastern region, which had hitherto accounted for the minimum coverage among the various regions. About 51 geologists, that is, nearly 50 percent of the total strength of geologists in the region, are being deployed for mapping the North-Eastern region compared to 30 geologists engaged in mapping the area last year. This is part of the larger effort to cover the entire country through geological mapping as quickly as possible.

A time-bound scheme of about 3 to 5 years is also being launched by the GSI from this field season for a systematic assessment of the geothermal resource potential of the country in a phased manner. A number of expeditions have also been programmed to unravel the geology of the high altitude and inaccessible areas in the Himalayas and other parts, as also for detailed studies on snow, ice and glaciers which are the necessary inputs for water resource evaluation and management. Remote sensing techniques will be employed on an increasing scale in these investigations as also in the search for mineral deposits.

A number of research items in various branches of geology have been included in the International Geological Correlation Programme (IGCP) to work out solutions to certain funda-

mental geological problems in collaboration with different international working groups engaged in studies of similar problems in other parts of the world.

In connection with various engineering projects sponsored by the Centre and the state governments, proposals for about 530 items of geotechnical investigations have been received as against 437 last year. About 135 engineering geologists will be attending to these, compared to 110 geologists last season, the increase being in tune with the government's directive to increase the resource—input for geotechnical activities.

Multidisciplinary environmental programmes on rural and urban development will be continued, as also regional exploration of the continental shelf in collaboration with the National Institute of Oceanography (NIO) and other agencies. Environmental studies carried out so far have already yielded tangible results in identifying new areas for ground water resources, agricultural development and mineral resource for establishing small scale and cottage industries in rural areas.

Balanced Growth of Sugar Industry Stressed

Inaugurating the 46th Annual General Meeting of the Indian Sugar Mills Association (ISMA) recently in New Delhi, Mr. Brahm Perkash, Union Minister of Agriculture and Irrigation, stressed that he had an abiding interest in evolving a long-term sugarcane and sugar policy. The major objective of this policy should be growth-oriented and also avoid wide fluctuations in cane and sugar output, which invariably caused hardships to the growers and consumers alike.

The Minister held that ideal arrangement in this connection would be to have a control-free economy with full availability of sugar at reasonable prices. However, in actual practice due to a variety of factors such as the differing agro-ecomic situation in the country, climatic and seasonal variations, differing levels of production and productivity, fluctuating world demand and supply, Government had to evolve many alternative steps to provide stability to the sugarcane and sugar economy.

The Minister observed that in his opinion the system of dual pricing could only be an expediency and not provide the basis for an enduring policy. The differential pricing, which was sought to be justified mainly on the ground of providing means for higher cane price, did, in fact, lead to widespread malpractices, while also having limitations in respect of remuneration to growers. He told that his desire to attempt to evolve a viable policy which would be in the interest of cane growers and the consumers while, at the same time, enable the industry to function efficiently.

The Minister remarked that the sugar industry had been instrumental in the development of rural areas of India to a great extent. With 303 sugar factories installed and 38 new sugar factories under establishment in different states of India, the industry had played a significant role by creating employment potential in rural areas and establishing educational, medical and other facilities.

Referring to the widely fluctuating sugar production in the country, the Minister informed that production reached a peak level of 6.46 million tonnes in the 1977-78 crushing season declined to 5.86 million tonnes during 1978-79 and the prospects of sugar production during the current crushing season were somewhat disturbing. According to the present estimates, the total sugar production during the current crushing season was expected to be of the order of less than 5 million tonnes. The Minister opined that fluctuations in sugar production were not very uncommon in any sugar producing countries. Even in the leading sugar producing countries of the world like Brazil, Cuba and USSR, there had been wide and violent fluctuations in many years. This was quite understandable, since the industry was an agro-based industry depending on sugarcane or sugar beet, the production of which depended on many factors like climatic conditions, drought, floods and incidence of pests and diseases.

The Minister indicated that added to these, in a country like India, the fluctuations in sugar production were more prominent on account of two factors, namely, the level of overall production of sugarcane and diversion of sugarcane to the gur and khandsari industries. While fluctuations in production were a normal feature of an agro-based industry, there was need to maintain the consumer price of sugar at a reasonable level, he added.

The Minister continued that the Government was fully alive to the need for evolving a viable long-term sugarcane and sugar policy. It had to be conceded that the policy of decontrol had, in stimulating domestic consumption to a level of 6.2 million tonnes in the sugar year 1978-79, fulfilled the role which it was expected to play in a situation of record

production and abundant availability. The Government had been monitoring closely availability and prices of sugar. The sugar prices tended to firm up from the middle of March, 1979 and went to the range of Rs. 240-260 per quintal in the beginning of June, 1979. Despite a liberal release ranging from 525,000 tonnes in June to 600,000 tonnes per month in August and September and a number of other measures, it shot up to range of Rs. 300 to 350 in the first week of September 1979, levels well above those considered reasonable.

The Minister stated that surely the Government had to maintain a balance between the various sections of the community and to ensure availability of sugar at reasonable prices, the Government had to clamp down the Sugar (Price Control) Order early in September, 1979. He said that time and again the industry had been asked to organise its own outlets on the basis of many other industries like textiles, tea, etc. and to hold the price line. But, there was no positive response from the industry and the Government had no alternative but to issue a statutory Price Control Order. In regard to buffer stock of sugar of 500,000 tonnes, the Minister stated that no doubt the Government had at one time decided to create a buffer stock. However due to certain unavoidable reasons, recourse could not be had for this measure at the time of plentiful availability earlier in the last season. He said, however, the circumstances requiring the creation of buffer stock were no longer there.

In regard to the statutory price of sugarcane, the Minister held that in the circumstances prevailing in the current crushing season when the sugar cane production had been affected very much by drought conditions, the major effective method of stepping up the sugar production was by taking steps for increasing the supplies of sugarcane to the sugar factories. The Government had accordingly raised the statutory cane price to Rs. 12.50 per quintal of sugarcane linked to a basic recovery of 9.5 percent, which was a 25 percent rise over the last year's price.

The Minister revealed that the question of revising the incentives to new sugar factories established at high cost and expansions in the existing factories had been under consideration of Government for quite some time. He said, he was convinced that there was full justification for a scheme of this nature. Consequent to the decontrol of sugar with effect from August 16, 1979, a need was felt to revise the incentives which were earlier based on extra free-sale quota coupled with excise duty relief. However, during the intervening period, the other parameters which had been taken into consideration while working out the incentive originally, had also been undergoing frequent changes. The exercise had to be made twice or thrice and it is taking a final shape now.

In regard to export of sugar, the Minister said the India had been allocated a basic export tonnage of 825,000 tonnes of sugar in terms of raw value or 764,000 tonnes in terms of white sugar, under the International Sugar Agreement, which came into force on January 1, 1978. Due to the surplus conditions in the international sugar market and consequent application of the corrective provisions in the Agreement, the export quota of the sugar exporting countries was reduced by 10.05 percent. Thus India's effective quota would be 672,000 tonnes in terms of raw value, or 622,000 tonnes in terms of Pakistan White Sugar.

Improved Performance of Hindustan Shipyard

For the third consecutive year, the Visakhapatnam unit of Hindustan Shipyard Limited has declared a dividend of six percent on the paid-up capital amounting to Rs. 11.54 million.

During 1978-79, the Shipyard achieved the highest turnover on ship repairs, amounting to about Rs. 42.79 million, a record so far. The number of ships repaired was 96.

The Shipyard has so far built and delivered 77 vessels covering a wide range from ocean-going cargo liners to all types of specialised craft. These include hydrographic survey vessels for the Indian Navy and Oil and Natural Gas Commission.

NBCC Makes Headway

The Government of India has sanctioned another instalment of Rs. 5 million to the National Buildings Construction Corporation (NBCC) Limited towards investment by the Government in its equity shares. This raises the amount sanctioned for the purpose during the current financial year to Rs. 10 million. The first instalment of Rs. 5 million was given in June this year.

The paid-up capital of the Corporation now stands at Rs. 74.50 million. Its authorised capital is Rs. 100 million.

The NBCC, a public sector undertaking under the Ministry of Works and Housing was set up in 1960. It is now

of the prime construction agencies in the public sector in India. It undertakes construction of specialised and complicated works on a turnkey basis, including planning, design and construction. It works all over India and also in Libya and Iraq. The works it has in hand include airports, tube railway, bridges, townships, fertiliser and cement plants, sewerage works, thermal power stations, chimmneys, fly-overs and housing.

Kandla Port Handles More Traffic

Kandla Port handled a record traffic of 4.54 million tonnes during 1978-79, registering an increase of 19 percent as compared to the traffic handled during the previous year. This was mainly due to rise in liquid cargo, increase in imports of fertilisers and cement, exports of wheat and sugar and diversification of traffic by handling new items like zinc, sulphate, wood pulp, mutton and molasses.

The off-shore oil terminal at Vadinar, an extension of Kandla Port, which was commissioned in August 1978, contributed traffic to the tune of 1.34 million tonnes of crude oil, thereby bringing the aggregate traffic to 5.87 million tonnes during the year.

The actual financial performance exceeded the budgetary performance as also that of the previous year. The total income rose from Rs. 104.11 million during 1977-78 to Rs. 157.65 million in 1978-79.

Additional cargo handling equipment like forklifts, mobile cranes and payloaders are under procurement to meet the requirement of increasing general cargo traffic. Action has also been initiated for acquiring special equipment like haulers and towing touchers, each having a capacity of 40 tonnes, and mobile cranes having a capacity of 30 to 35 tonnes, to suitably equip the port for handling container traffic as a feeder port on the west coast of India.

ECIL in the Sphere of Antennae

Electronics Corporation of India, (ECIL) has made a substantial contribution in building a reliable a network of communication systems in the country. A large number of troposcatter antennae with associated microwave link antennae have been set up by ECIL for the Ministry of Defence. ECIL had also undertaken the fabrication and installation of the 30 metre diameter antenna for India's second earth satellite station now in operation at Dehra Dun. ECIL's contribution to the Indo-USSR troposcatter link has been four 30m troposcatter antennae and associated feeds. This is the longest single hop troposcatter link in the world covering a distance of 692 kms. This project is expected to be commissioned by 1980.

Within a span of six years, ECIL has developed complete capability in the design, development, fabrication, testing and commissioning of a wide variety of antennae of diameters ranging from 4.5 to 30 metre for earth satellite stations (INTELSAT A and B types.) ECIL is now fully capable of undertaking any large troposcatter or microwave antennae link on a turnkey basis. ECIL is the only agency in the country which has a large workshop exclusively for the manufacture of antennae, a sophisticated test range and allied equipment for testing the performance of the antennae. With a high precision antenna spinning machine, ECIL is today in a position to manufacture upto 1000 line-of-sight "dishes" in various frequencies annually. Besides these, ECIL is also presently supplying HF log periodic antennae, VHF and UHF antennae, ground plane antennae and antennae for tracking radars.

Backed by a team of highly dedicated professionls and with a strong R & D base, ECIL can now claim its share in the world market of microwave antennae.

During the 6 year period between 1973 to 1979 ECIL has installed various types of antennae valued at over Rs. 150 million. The collaboration agreements entered into recently, with NERA of Norway and NEC of Japan, will make available to ECIL the latest technology currently being used in the world. This will make it possible for ECIL to manufacture, within a short span of time, antennae of the international standards and also to obtain a fair share of the export market to the developing countries.

Poclain Hydraulic Excavator

A pontoon-mounted hydraulic excavator is operating for dredging for the first time in the country. The machine involved in this pioneering application, the L and T-Poclain hydraulic excavator, was demonstrated recently in the port of Cochin in the presence of high port officials from all over India.

The L and T-Poclain 9O-CK hydraulic excavator working at the Cochin port is equipped with a 1,000-litre clam. The excavator, mounted on a pontoon, scoops bucket-loads of sand and silt and dumps the material on to a flat

barge. The cycle time for one operation is 25 seconds. The desilting is done at the rate of 120 cubic metres per hour.

The L and T-Poclain hydraulic excavator, noted for its versatile applications, has now opened new possibilities in the marine field. It can be used for dredging or desilting in rivers, lakes, ponds and water channels.

Science and Technology

New Process of Bleaching and Dyeing of Jute Fibres

A novel process of bleaching and dyeing of jute fibres at the batching stage has been developed in Indian Jute Industries' Research Association (IJIRA), Calcutta. The process is based on the application of controlled dozes of hydrogen peroxide through JBO emulsions. The rate of decomposition of hydrogen peroxide in presence of batching oil emulsion in the pile and brightness incides of the treated fibres after bleaching are discussed in the paper. The fibres after treatment with hydrogen peroxide in batching oil emulsion are processed under normal mill processing conditions using conventional machinery. The results obtained on droppings at breaker card, finisher card, spinning end-breaks and warp breakages are more or less within tolerable limits. The action of residual hydrogen peroxide on machinery parts, cards pins etc., has been carefully observed in a mill over extended period, and it is found that in presence of JBO there is no corrosion of metal parts due to hydrogen peroxide.

The process has also been extended to produce bleached and dyed jute fabrics through the simultaneous application of hydrogen peroxide and selected direct dyes in the JBO emulsion.

Thus it is now possible to produce specially products such as large width C B fabrics (150-200") by this method in various shades. The process is simple and economic.

Indian Remote Sensing Satellite

Space-based remote sensing for natural resources management being a major programme goal of Indian Space Research Organisation (ISRO), detailed exercises were underway during 1978-79 to define the mission, payload and weight class of a semi-operational remote-sensing satellite to be orbited in the mid-eighties. This Indian Remote Sensing Satellite (IRS) will be built to meet the requirements of specific users in the Central and State Governments and the needs of resource managers in various disciplines, acording to the annual report of the Department of Space, Government of India, for the year 1978-79.

During 1978-79, preliminary discussions were held with a number of user Ministries and State Governments. These include the Union Ministry of Agriculture, Department of Minies, Department of Petroleum and the Union Ministry of Energy. Joint experiments with user Ministries have been planned to identify the satellite spectral bands and to define the requirements of operational systems. As a first step in this process, a number of aircraft flights were planned to be carried out in March-April, 1979.

For the space-segment, detailed systems studies on various spacecraft configurations have been carried out. A set of payload instruments for carrying out the remote sensing observations have been identified. The technical parameters of these instruments will be continuously revised and refined to meet the needs of the users as the same emerge from the joint experiments. The system studies indicate that a 550-600 kg class, three-axis established satellite carrying a multi-spectral scanner a Linear Imaging Self-Scanning (LISS) System and a passive microwave radiometer, could meet most of the possible user requirements. The spacecrafts will need to be placed in a sum-synchronous near-polar orbit at a nominal altitude of either 550 km or 1,000 km, the orbit depending on the mission requirements. The narrowing down of these options and final choice of payloads is likely to be completed shortly when the results of the joint experiments with the users become available.

Sodium Alginate from Seaweeds

The process developed for the production of sodium alginate from seaweeds by the Central Salt and Marine Chemicals Research Institute (CSMCRI), Bhavnagar, was released in May, 1977 to Belur Chemical Industries, Chamarajapuram, Mysore. As reported in the Technology Awareness Service of the Council of Scientific and Industrial Research, New Delhi, the firm started commercial production of sodium alginate in May, 1978. The CSMCRI technology for the process was also released to five other firms which are taking steps to commercialise the same.

Alginic acid is one of the very few seaweed colloids which find use in many industries. Though it is seldom used as an acid, its sodium salt, namely, sodium alginate, has a wide field of applications as a stabilizing agent in fruit squashes, milk suspensions and other drinks, in ice cream industry, as a thickening agent for jams, sauces, jellies and custard, in

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pharmaceutical industry, in the manufacture of water proofing cement and concrete, in paper coating composition in pring inks, as a mordant in dyeing, in printing of textiles, etc. In view of this, the demand for sodium alginate has been increasing fast. To meet the demand sodium alginate is also imported, Particularly from UK and Japan.

The process developed at CSMCRI, Bhavnagar, is simple and the raw materials needed are available indigenously-seaweeds, particularly Sargassum Tenerrium, hydrochloric acid, sodium hypochlorite, calcium chloride, sodium carbonate, etc. The seaweeds are abundantly available along the Saurashtra coast during the period November-January.

IITF '79—Scope and Highlight*

The India International Trade Fair which is being held at Pragati Maidan from November 10 to December 9, 1979 is patterned on the model of a large buyer-seller meet. This Fair marks the beginning of a regular series of international fairs to be organised periodically by the Trade Fair Authority of India in the future. It is a small show window, notwithstanding its size, of the emerging industrial capabilities of India and of her partners in trade and economic collaboration.

The basic objective of the Fair is to project a telescopic view of the expanding trade relations of India with countries of the world and educate the visiting public about the modern developments in production and technology. Participation of a large number of industrial enterprises and business houses from overseas has enabled the Fair to present cross sections of industry and technology as they have developed in various parts of the world. Foreign participation encompasses displays at national as well as at company levels from almost all the regions—the Far East and Pacific, the Middle East, South-East Asia, West Europe, East Europe, America, Africa and the neighbouring areas.

The national sector of the International Fair presents a panoramic view of Indian economy. Indian manufactures are being imported by almost all countries of the world. A sound infrastructure has been built and new industries are coming up fast all over the country. The Fair provides some glimpses of this industrial revolution.

Among the participants in the national sector are Central Ministries and Departments dealing with agriculture and irrigation, railways, communication, science and technology development of mines, atomic energy, defence prodution, education, scientific and industrial research and shipping and transport. Almost all Indian States and Union Territories are participating on a sizeable scale to project their development and business potentialities. Besides, a large number of public sector undertakings are participating. These include Bharat Heavy Electricals Ltd. (BHEL), Steel Authority of India (SAIL),Fertilizer Corporation of India (FCI), State Trading Corporation (STC), Indian Oil Corporation, Oil and Natural Gas Commission (ONGC), Electronic Trade and Technology Development Corporation (ETTDC), Engineering Projects India (EPI) Hindustan Machine Tools (HMT), Instrumentation Ltd., Minerals and Metals Trading Corporation (MMTC), Hindustan Steelworks Construction Ltd (HSCL), State Bank and other national banks and National Small Industries Corporation. Almost all the export promotion agencies are also represented at the Fair together with their contituents.

Apart from a large number of private enterprises that are taking part independently, well over a thousand industrial units are participating under the banner of State Governments and export promotion agencies. All these firms are keen on developing trade with business houses of other countries.

The Theme Pavilion at the Fair highlights achievements in various fields of development in India with emphasis on export promotion and industrialisation. The depiction in the pavilion is based on India's capabilities, potential for transfer of technology and scope for international cooperation.

Other sections of the Fair include an art and paintings exhibition, a books exhibition, flower shows, demonstration of crafts, fashion shows, screening of films and other cultural activities.

Visits of several buying delegations from abroad is another important feature of the Fair. The delegations are expected from Bahrain, Bangladesh, China, Congo, Cuba, Ethiopia, Italy, Kenya, Malawi, Nigeria, Qatar, Saudi Arabia, Spain, Syria, Tanzania, West Germany and USSR. Visit of foreign trade delegations is being sponsored by various Export Promotion Councils and Chambers of Commerce also. It is hoped that these visits will open up substantial opportunities for business.

In brief, the Fair has been conceived and is being presented in a manner that it will prove useful to the business visitors and at the time provide education and entertainment to the general public.

*By Prem Nath, Managing Director, Trade Fair Authority of India.

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economic and commercial news

News Highlights

Contracts with USSR at IITF '79

Several contracts for the supply of wide-ranging Indian products to the Soviet Union have been signed between Indian participants and the Soviet delegations since the inauguration of the India International Trade Fair 1979. They relate to supply of 2,000 tonnes of mica worth over Rs. 40 million ; aluminium valued at Rs. 31 million, castor oil worth Rs. 58.5 million; green coffee valued Rs. 580 million; ball bearings worth Rs. 7.5 million ; medicines worth Rs. 6.5 million; leather worth Rs. 20 million; shoe uppers valued Rs. 4.3 million; spices worth Rs. 6 million and spair parts of machines worth Rs. 1 million.

Indo-Algerian Economic Cooperation

Under a memorandum of understanding signed recently in New Delhi, Algeria has agreed to consider the Indian request to supply crude oil and petrolium products on long-term basis.

(Contd. on page 2)

Export Performance and Potential

Wider Cooperation between India and Algeria

India and Algeria signed a memorandum of understanding recently under which Algeria has agreed to consider the Indian request to supply crude oil and petroleum products on a long-term basis.

The Memorandum was signed by Mr. S. Narayanaswami, Jt. Secretary in the Ministry of Petroleum from the Indian side and Mr. B. Mouloua. Director of the Algerian Ministry of Energy, who led a 6-member delegation from his country.

During their visit, the Algerian delegation had detailed discussions with the Ministry of Petroleum, Chemicals and Fertilisers and also had extensive discussions with the Engineers India Limited, Indian Oil Corporation and the Oil and Natural Gas Commission. The delegation also visited the fertilisers plant at Panipat, the refinery in Koyali (Gujarat), petro-chemicals complex at Baroda and the offshore operations site in Bombay High. The team also visited the Bharat Heavy Electricals Limited and Hindustan Machine Tools at Hyderabad and Bharat Heavy Plate and Vessels fabrication shops at Vishakhapatnam besides the nitric acid plant of the Rashtriya Chemicals and Fertilisers at Bombay.

The Algerian Delegation noted that Indian industries had attained an advanced technological stage and that India could take up important work on its own in the field of engineering equipment manufacture and operation of industrial installations.

Indo-GDR Industrial Cooperation

The German Democratic Republic will assist India in developing the mining of lignite in Kutch area upto a capacity of 5,000 tonnes per day to be used for power generation.

Indo-Soviet Protocol on Machine Building

India and the Soviet Union has signed recently a protocol of cooperation on machine building. The protocol also envisages the possibility of continuous technological upgradation in the existing fields of manufacture of equipment as also manufacture of new type of equipments.

Upswing in India's Exports

According to provisional data, India's exports including re-exports registered and increase from Rs. 22,372.3 million in April-August 1978 to Rs. 24,042.2 million during the same period in the current year. India's imports also moved up from Rs. 26,783.6 million to Rs. 30,277.5 in the comparable periods.

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The identification of possibilities of cooperation in the economic and technical fields related to exploration and commercialisation of oil, operation of industrial units and assistance to engineering activities and achieving of projects in the petrochemicals and hydro-carbon sectors.

Regarding exploration, the Algerian side explained the conditions for participations by India in areas of exploration. The two sides agreed that a meeting of experts will be held in this regard at Algiers in the beginning of January next year.

The Algerian side expressed their need for technical cooperation in the field of engineering and operation of industrial units. It was explained that there could be cooperation within the framework of a convention to be established between the two parties. It was agreed to start this coopetion for nitric acid units and amonium nitrate units of the Algerian company, Annaba from January, 1980.

India's Participation at Brussels Furniture Fair

Wide ranging decoratives and utilitarian furniture items were displayed by India at the International Furniture Fair, 1979 at Heysel, Brussels (Belgium) which was held during the last month. The first ever participation by India, in this annual specialised Fair was organised by the Trade Fair Authority of India (TFAI), a public sector undertaking of the Government of India.

The furniture items made of wood, cane and bamboo attracted special attention for the visitors. Furnishing fabrics, screens, decorative hardware and brass fittings evoked keen interest. Twelve leading furniture firms from India participated in the Indian Pavilion which has reported substantial business potentialities, particularly in the field of screens, decoratives, hard ware and furnishing fabrics.

Indian Contract in Saudi Arabia Extended

Saudia Arabia has extended the contract of port management of Yanbu Construction Support Port for a further period of one year on successful completion of two years. The contract is being executed by the Dredging Corporation of India, (DCI), a public sector undertaking under the Union Ministry of Shipping and Transport in collaboration with M/s Star Navigation Company, Jeddah. With the extension of the contract, the DCI would earn foreign exchange to the tune of $14.00 million over three years. The initial contract was worth $ 10 million.

It may be recalled that the contract, the first of its kind to be awarded to an Indian State-owned company by Saudia Arabia, was won against stiff international competition in 1977 for a period of two years. Under the contract, the Corporation is responsible for providing complete managerial services, two tugs, two pilot launches and two mooring launches to handle the complete ship movement at the Yanbu Construction Support Port.

The successful execution of the 2-year contract by the DCI has been highly commended by their Saudi Arabian collaborators M/s Star Navigation

Company. Mr. B.K. Shah, Director of the Company, has said that the DCI has performed an execellent job in Saudi Arabia and earned a very good name for India amongst other world companies operating there. India has now a bright chance of getting more jobs in Saudi Arabia, he added.

India's Participation in Plovdiv Fair

India's participation in the 35th International Trade Fair at Plovdiv, Bulgaria, which was held recently, has been a great success. Spot contracts worth Rs. 12 million for hand tools have already been concluded and more business is expected to materialise resulting from enquiries and negotiations during the participation.

The Indian pavilion proved to be a great draw both for business circles and the general public. The Indian participation, after a lapse of two years, comprised various export promotion councils and nearly 35 Indian firms and export houses. Organised by the Trade Fair Authority of India, Indian pavilion exhibited both traditional and non-trditional goods including a fair variety of Indian light engineering goods.

Fresh contracts are expected for leather manufactures, handicrafts and ready-made garments.

Growing Indian Participation in German Fairs

According to a press release of the Indo-German Chamber of Commerce, there has been sharp increase in Indian participation in to German trade fairs. The general increase in the interest shown by Indian firms in German trade fairs during the current year has shot up to a high level during the months of September and October. It had begun with fair ANUGA (World Food Market from 8 to 13 September) in Cologne with a record Indian participation by 6 Export Promotion Councils and Commodity Boards from India including the Coffee Board and Tea Board.

The next was the largest ever Indian participation in SPOGA (International Trade Fair for Sports Goods, Camping Equipment and Garden Furniture from 22 to 25 September) in Cologne in which 40 Indian firms exhibited a wide range of sports goods.

In the Overseas Import Fair "Partners for Progress" held in Berlin from 19 to 23 September, there were 41 Indian exhibitors, an increase of 35 percent as compared to last year. In this fair, Indian firms have been successfully exhibiting for the last many years traditional and non-traditiional consumer items. Almost at the end of the Berlin fair, 6 Indian firms for the first time participated in the Family Exhibition, Du und Deine Welt held in Hamburg from 21 to 30 September.

Towards the end of September, there was also the International Footwear Fair GDS held in Duesseldorf from 22 to 24 September where a contingent of small and medium scale Indian footwear manufacturers held an excellent display of footwears along with the worlds biggest competitors. The result was encouraging for India's future participation in this fair.

Indian presence was also noticed in other exhibitions like ISPO (International Sports Equipment Fair from 30 August to 2 September) in Munich and International Motor Show, Frankfurt from 13 to 23 September and International Book Fair, Frankfurt from 10 to 15 October.

Amidst the effective Indian participation in trade fairs is the large number of Indian visitors who had attended many of these fairs particularly the technological and capital goods fair like K'79 (International Trade Fair Plastics+Rubber from 10 to 17 October) in Duesseldorf; ITMA (International Exhibition of Textile Machinery from 2 to 11 October) in Hanover and IMB (International Fair of Clothing Manufacturing Machines from 27 to 30 September) in Cologne. A record number of Indian visitors, over 1000 for ITMA, 800 for K"97 and 150 for IMB far exceeded the figures of Indian visitors to any of the trade fairs in the past.

Export Orders for Public Sector Units

The public sector undertakings under the Department of Heavy Industry have secured exprot orders worth Rs. 18.6 million during August, 1979.

Cumulatively, the value of the export orders secured during the period April to August, 1979 amounted to Rs. 556.2 million as compared to Rs. 747.8 million during the corresponding period last year, i. e., a decrease by about 26 percent. However, the performance of public sector undertakings in execution of the export orders has improved from Rs. 698.4 million during April-August, 1978 to Rs. 876.3 million during April-August, 1979, registering an increase by about 26 percent.

The value of export orders in hand as on August 31, 1979 amounted to Rs. 9169.8 million which is also 20 percent more than the export orders of Rs. 7616.6 million in hand as on August

31, 1978. The two undertakings, viz., Engineering Projects (India) Limited and Bharat Heavy Electricals Limited accounted for about 91 percent of the total export orders in hand as on August 31, 1979.

India's Consultancy Services Abroad

India's export earnings from consultancy services have risen by 45 percent, representing an increase of 100 percent over the performance of the past two years.

According to the latest figures, Indian firms secured contracts to the tune of Rs. 140 million in 1978-79 as against Rs. 95 million in the previous year. Earnings in 1976-77 amounted to Rs. 75 million.

Out of the 90 firms in the public and private sectors, as many as 60 are providing consultancy services for various projects abroad. The figures, of course, relate to only those firms which are registered with the Federation of Indian Export Organizations (FIEO).

The nature of services provided by Indian consultants includes financial management for shipbuilding and repairing operations, engineering services for urea, fertilizer, petroleum, copper, power and hotel projects. Majority of the contracts have been obtained in the Gulf countries followed by Africa and Asia.

Some of the major companies which have been providing services to the markets abroad include Agrima Project Engineering and Consultancy Services, Consulting Engineering, Development Consultants, Engineering India, Howe (India) Pvt Ltd., M. N. Dastur, Metallurgical and Engineering Consultants, National Industrial Development Corporation, Rail India Technical and Economic Services, Tata Consultancy Engineering and Water and Power Development Consultancy.

Today, Indian consultancy organizations cover nearly the entire spectrum of industrial and infrastructural activity with nearly 15,000 qualified professionals working in more than 120 consultancy organizations in the country.

Finalising International Jute Agreement

A formal negotiating conference is to be convened to finalize the International Agreement on Jute. This was decided at a meeting convened by UNCTAD in Geneva from November 5 to 9, 1979. It may be recalled that jute is one of the 18 items indentified for international arrangment during UNCTAD IV held in Nairobi.

The Geneva meet was the latest in the series of international meetings held on the subject during the last three years. It was attended by producers and consumers. Among the main producers were India, Bangladesh, Nepal, Thailand and Burma. Among the consumers, a large number of Governments were represented.

The proposed Agreement which is being discussed aims at improving the prospects of jute and jute goods in the international trade. The main problem which has been identified is the disadvantage that jute faces in its competition with synthetic regarding pricing, market promotion measures etc. Thus improvement of productivity and processing, so as to compete successfully with the synthetic substitutes, is an important matter to consider. Besides, new end-uses have also to be found for jute, so that marketing thrust could be given in those directions. All this calls for intensive action in the field of research and development, market promotion and improvement in the productivity and processing efficiency.

One serious difference that has been going on among the producers and the consumers is regarding measures for stabilisation of prices and supply. It has been urged by the producers that one important adverse factor is the uncertainty of supply and fluctuations of prices. The consumers are yet to appreciate this problem fully, though in the present context of high prices of jute goods and uncertainty of supply because of production and transport constraints, the need for taking action regarding stabilisation of prices and suoply is further emphasised.

During this last meeting, a draft of the argeement was presented by the producers. Specific important items like institutional arrangment, financing, types of projects to be undertaken etc. were discussed. It has been decided that the preparatory phase of the work is over and negotiating phase should now start.

For the producers, the main areas of concern in this sector are retention of the market for the end-uses which are facing serious erosion from synthetic substitutes, expansion of the market for other end-uses, territorial diversification of trade, ensuring prices at reasonable high levels, finding out new end-uses and putting these new products into international market etc.

India Elected to IMCO

India has been elected as one of the six members of the Council of the Inter-Governmental Maritime Consultative Organisation (IMCO) under category 'B'. Category 'B' represents the States which have the largest interest in international seaborne trade.

the elections held during the 11th ession of the Assembly in London n November 14, 1979, India secured votes which was the highest among her countries in categories 'A' and '. India has been the member of the MCO Council since the inception of ie organisation in 1959 first under ategory 'C' and then under category 3'. The IMCO Council consists of epresentatives of 24 member states, ected for a term of two years. Accord ig to the IMCO convention, elections the Council, which is the governing ody of the organisation, are held for ree categories ;—(a) States with the rgest interest in providing interna- onal shipping service (6 seats); (b) tates with the largest interest in inter- ational seaborne trade (6 seats); nd (c) States which have special inte- est in maritime transport and avigation and whose election to the Council will ensure the representatives f all the major geographic areas of the vorld (12 seats).

MCO is the specialised agency of the Jnited Nations concerned with facili- ations of cooperation among governments on technical matters affe- ting international spipping in order o achieve the highest practicable tandards of maritime safety and effici- ncy of navigation. It has a special esponsibility for safety at sea and protection of the marine environment hrough prevention of pollution of the ea caused by ships and other craft.

Export Performance of Indian Firm

M/s. Tata Exports Ltd., have been contributing to foreign exchange earnings. Their total turnover in 1977-78 amounted to Rs. 1050 million.

Their exports embrace a wide spectrum of equipment, products and services in engineering and non-engineering sectors comprising commercial vehicles, power transmission and distribution equipment, tractors, agricultural machines, railway equipment, steel plant equipment, sugar mill machinery, cement plants, airconditioning and refrigeration plants, finished leather, leather garments, leather goods, footwear, textiles,soaps, toiletries and cosmetics, tea, processed foods, chemicals, diamonds and general trading items.

The company has been declared for the fifth year in succession, as the winner of the best export performance award in the category of export houses by the Maharashtra Government for the year 1977-78.

Industrial Growth and Diversification

Industrial Production Trends

The DGTD industries recorded a growth of 10.4 percent during the financial year 1978-79 as compared to the year 1977-78. The assessment is based on production in industries which cover a weight of 39.7 (out of a total of 49 allotted to the Directorate General of Technical Development) in the general index of industrial production. After applying deflators on the indices of items whose growth is compared in monetary terms, the overall growth rate of those industries comes to 9.3 percent.

The increase in production in 63 industries,which account for a total weight of 14.5, was 10 percent or above while 44 industries with a combined weight of 20.17 recorded a growth of less than 10 percent. In 20 industries having a combined weight of 5.03, there was a decline in production during the year 1978-79 as compared to the preceding year.

The overall performance of chemicals and chemical products (having a weight of 8.78) has been a growth of 6.3 percent. Industries that contributed significantly to this growth are : phosphatic fertilisers (19.2 percent), thermoplastics (200 percent); paints and varnishes (20.6 percent), industrial explosives (13.9 percent), streptomycin 9.8 percent), vitamin A (25.4 percent), soaps (12.4 percent) and synthetic detergents (20.9 percent). Industries that attained lower level of performance than last year are : chloromyphenicol, sulpha-drugs, azodyes and synthetic rubber.

Industrial machinery excluding the electricals achieved a growth of 16.1 percent during 1978-79 as compared to 1977-78. In physical terms, the production of boiler increased by 8.5 percent which gets reduced to 7.5 percent when the price rise is taken into account. Mining machinery and metallurgical machinery, cement machinery etc., also showed a considerable growth over 1977-78. Industries recording overall decline due to a variety of reason are : sugar machinery, chemical and pharmaceutical machinery and sewing machines.

Transport equipment sector having a combined weight of 3.03 achieved an overall growth of 13.8 percent. Commercial vehicles achieved on all time high growth of 40.7 percent along with jeeps (32.4 percent), motorcycles (27.9 percent), and bicycles (16.8 percent). Car production registered a decline of 2.2 percent, whereas, the railway wagons (excluding the production of 1,198 stable wagons and including the production against export and non railway orders) registered a decline of 5.7 percent.

The production of items falling in the group of electrical apparatus and appliances, which has a weight of 5.3 in the general index of industrial production, increased by 13.4 percent. Some of the items that contributed to the growth are : power transforemers (22.4 percent), fluorescent tubes (16.5 percent), winding wires (200 percent), dry cells (35.8 percent), motor starters (20.8 percent) and graphite electrodes and annodes (51.5 percent). Electric fans showed a decline by 9.7 percent whereas storage batteries more or less levelled up to the last year.

The production of basic metal industries recorded a growth of 8.5 percent during the year 1978-79 as compared to the preceding year. Items which recorded a substantial growth are steel castings (8.2 percent), seamless and C I spun pipes (69.9 percent and 29.3 percent respectively), aluminium sheets and circles (19.0 percent), aluminium (19.6 percent), aluminium extruded products (30.5 percent), and copper brass sheets and circles (13.4 percent). Aluminium coils transmissions towers and copper (cathode) registered on overall decline during the period.

Hindustan Shipyard Forges Ahead

The State-owned Hindustan Shipyard, Visakhapatnam, has made a profit of about Rs. 45 million for the year 1978-79. This was stated by Mr. S. Anandaram, Chairman and Managing Director, while addressing the annual general meeting of the Shipyard recently in New Delhi. He said that the net profit comes to Rs. 30.63 million after providing for depreciation and interest. Mr. Anandaram said that the Shipyard has been able to declare a dividend of 6 percent on the paid-up capital amounting to Rs. 11.54 million for the third year in succession.

He informed the meeting that the Shipyard had developed a new design for standardised family of ships in the range of 14,000 to 27,000 DWT. Its versatility facilitates speedy construction at less cost. The efficacy of the design has been successfully tested at one of the most reputed model test basins in the world, viz, Hamburg in West Germany. The Shipyard has diversified its activities into new fiields including manufacture of davits and folding hatch covers.

The Shipyard achieved the highest turnover on shiprepairs amounting to about Rs. 42.70 million a record so far. The number of ships repaired during the year was 96, he added.

The Chairman informed that during the year two "Pioneer" class vessels of 21,344 DWT each were built in the Yard. The total cost of production including shiprepairs came to Rs. 268 million as against Rs. 258.40 million during the previous year. A contract for building three ships was signed with the Shipping Corporation of India during the year. He said that the centre was considering the proposal of the British consultants for development of the Shipyard at a cost of Rs. 360 million to step up the production to 7 to 8 ships a year.

The Shipyard has so far built and delivered 77 vessels aggregating to 781,408 DWT covering a wide range from ocean-going cargo liners to all types of specialised craft. These include sophisticated naval survey vessels and survey vessels for Oil and Natural Gas Commission. On the shiprepairs side, 875 ships have been repaired, earning a foreign exchange of Rs.10.58 million.

Idukki Hydro Electric Project

The Planning Commission has cleared the stage II of Idukki Hydro Electric Project in Kerala at the revised cost estimate of Rs. 316.80 million. The project is to be included in the State's Sixth Five Year Plan as well as taken up for implementation in 1979-80. The Central Electricity Authority had earlier given techno-economic clearance to the scheme.

The major portions of the civil works required for Idukki Hydro Electric Project stage II have already been completed along with the stage I of the project. The works envisaged under stage II are fabrication, transportation and installation of steel lining between the butterfly valve and lower mainfold for the pressure shaft no. II and concreting and grouting behind the steel liners. It also includes installation of three generating units of 130 MW each with the associated control and station equipment.

The additional generating units would increase the installed capacity at the power station to 780 MW and would enable the operation of the station at lower load factor to help peaking capacity. Since the operating head is very high, the peaking capability of the generating units would be available throughout the year and is not affected by the variations in reservoir water levels.

Idukki Hydro Electric Project utilises the waters of the Periyar river for power generation at an average head of 665 metres by trans-basin diversion into the adjacent Muvattupuzha basin. The stage I of the project involved construction of an arch type concrete dam across the Periyar, a straight gravity

dam across Cheruthoni and a concrete dam at Kulamavu to form a common reservoir. It also involved construction of water conductor system comprising 2 km. long power tunnel and an underground power house with an initial installation of three units of 130 MW each with provision of three more units of 130 MW at a later date. In southern region, a super thermal station at Ramagundam (1100MW) and Nayveli Ext; (420MW) and Tuticorin Thermal Extn. (210 MW) are under implementation. It would be necessary to provide complementary peaking capacity in the grid to enable optimum utilisation of the thermal capacity planned in system. In this context, implementation of Idukki stage-II will help meeting peaking requirements and providing flexibility in operation and to enable the full benefits of integrated operation.

Augmenting Operational Efficiency of HFC

The Hindustan Fertiliser Corporation Limited, a public sector company, plans to shift its headquarters from New Delhi to Calcutta, in April next year.

It may be recalled that the Hindustan Fertiliser came into existence as a new company at the time of reorganisation of the erstwhile Fertilisers Corporation of India and National Fertilisers group of companies in March 1978. At that time, it was decided that for the time being, the headquarters of the company would be temporarily located at New Delhi till the Government decided on a permanent location.

The Hindustan Fertiliser administers four plants in the eastern part of the country, situated at Barauni (Bihar), Namrup (Assam), Durgapur and Haldia (both West Bengal).

The location of the Hindustan Fertiliser headquarters at Calcutta would have an obvious advantage in administering the fertiliser units better and is also expected to lead to economy of operations.

Notable Step-up in Rural Electrification

The three Western States of Maharashtra, Gujarat and Madhya Pradesh have achieved spectacular progress in rural electrification and exceeded the targets.

In 1978-79, in Maharashtra 1,904 villages were electrified against the target of 1,800 villages and 48,589 pumpsets were energised against the target of 37,000.

In the case of Gujarat and Madhya Pradesh too, the village electrification has been quite satisfactory. Gujarat electrified 1,343 villages against the target of 1,350, while the number of villages electrified in Madhya Pradesh was 3,000 against the target of 2,650. In respect of pumpset energisation, Gujarat almost met the target by energising 21,1770 pumpsets against 22,500. In the case of Madhya Pradesh, the number of pumpsets energised during the year was 28.928 against the target of 50,000.

In the country, nearly 40 percent of the villages have been electrified. Out of total number of 576,000 villages in the country, nearly 227,000 villages had been electrified by March this year and the number of pumpsets energised had reached 3.525 million.

The strategy for rural electrification during the current Plan Period 1978-80 continues to be based on utilisation of ground water potential and extension of benefits of electricity in backward and hilly areas. The Plan envisages electrification of 100,000 additional villages and energisation of 2 million pumpsets. The Plan also provides an outlay of Rs, 14,500 million for undertaking this programme. besides Rs. 3000 million which is expected to be made available from financial institutions.

In order to exploit the huge ground water potential available in the country, the Rural Electrification Corporation has recently introduced an agriculture oriented plan participation scheme called the Special Project (Agriculture). Under the scheme, the programme of pumpsets energisation is jointly financed by the Corporation, commercial banks and Agricultural Research Development Corporation.

Conserving Soil in River Valley Projects

The Government of India has approved a total expenditure of Rs. 18.61 million for 1979-80, for soil conservation in selected watersheds of the river valley projects of Hirakud, Machkund-Sileru, Rengali-Mandira, Nagarjun sagar Nizamsagar, Pochampad, Ukai, Ghod and Damanganga. The project-wise outlay is : Hirakud Rs. 5.345 million, Machkund Rs. 2.348 million, Rengali-Mandira Rs. 2.317 million. Nagarjunsagar Rs. 1.846 million, Nizamsagar Rs. 1.937 million; Pochampad Rs. 1.580 million, Ukai Rs 2.703 million; Ghod Rs. 57,900 and Damanganga Rs. 482,700. The expenditure on the soil conservation programmes in these areas will be shared on a 50:50 basis between the Government of India and the concerned State Governments. The share of the Government of India will comprise a 25 percent grant and 25 percent by way of loan and advances to the concerned State.

Main Indicators of Textile Industries

	Unit	1973	1974	1975	1976	1977	1978
Cotton							
Mills in existence (a)	(Nos.)	689	688	697	703	637	648
Spindles installed	(M. Nos.)	18.49	18.50	19.29	19.84	19.70	20.00
Looms installed	(000 Nos.)	206	205	208	207	207	207
Spindles Worked (b)	(M. Nos.)						
I shift		13.85	13.74	13.63	13.70	11.66	12.36
II shift		13.77	13.87	13.81	13 85	11.75	12.53
III shift		12.82	12.82	12.48	12.70	10.61	11.79
Looms Worked (b)	(000 Nos.)						
I shift		175	170	150	161	137	140
II shift		171	166	159	159	133	136
III shift		107	114	107	105	86	94
Cotton consumed	(M. bales)	6.66	6.79	6.76	7.31	6.60	1.79
Yarn production	(M. Kgs.)	998.20	1006.99	989.31	1005.93	846.07	236.92
Cloth production	(M. mtrs.)	7770.43	8283.86	8034.05	7945.42	6901.77	1931.64
(i) Mill	(M. mtrs.)	4168.85	4315.61	4032.45	3880.96	3223.49	848.85
(ii) Handlooms and Powerlooms	(M. mtrs.)	3601.58	3968.25	4002.00	4064.46	3678.28	1082.79
Blends							
Yarn production	(M. Kgs.)	30.83	25.48	40.49	74.96	188.14	56.67
Cloth production	(M. mtrs.)	129.81	123.94	233.97	330.35	890.77	246.63
Man-made Fibres and Textiles							
Production							
Fibre	(M. Kgs.)	73.70	85.52	81.44	105.21	108.02	30.98
Filament yarn	(M. Kgs.)	51.07	49.03	52.87	61.10	62.05	16.82
Spun yarn	(M. Kgs.)	61.55	59.78	54.28	65.84	87.80	24.79
Fabrics	(M. mtrs.)	886.67	849.31	862.79	1023.08	N.A.	N.A.
Machinery							
Production							
Major Machines	(Rs. in million)	427.3	725.1	768.4	1875.6	837.2	239.2
Spares and Accesories	(Rs. in million)	423.8	487.9	535.1	529.4	530.2	160.4
Exports							
Cotton Textiles	(Rs. in million)	2653	3721.8	3295.2	5963.8	6524.2	...
Woollen Textiles	(Rs. in million)	451	541.2	681.6	586.3	1291	...
Man-made Textiles	(Rs. in million)	207.5	310.7	165.8	356.7	366.6	...
Others							
Per-capita Availability of textiles							
(i) Cotton	(Mtrs.)	12.04	12.88	12.58	11.36	9.47	...
(ii) Blends	(Mtrs.)	0.44	0.36	0.61	0.97	2.35	...
(iii) Man-made	(Mtrs.)	1.46	1.36	1.37	1.40	1.60	...

Uptrend in Small Savings

Various schemes launched under National Savings netted a total of Rs. 4188.6 million during April-September, 1979, as against Rs. 2193 million collected during the corresponding period last year.

In absolute terms, the gross collection during the six-month period was 19.54 percent higher and net collection was 43.79 percent higher than the corresponding figures last year. The net to gross ratio so far during the current year is 32 percent as against 26.60 percent during 1978-79.

Altogether 14 schems are being operated through banks and post offices to mop up small savings in the country. The collections have shown steady improvement in individual schemes.

Science and Technology

New Uses of Neem for Pest Control

Scientists of the National Chemical Laboratory at Pune have found a new use for the neem, the leaves and seeds of which are known to have medicinal and insect repellent value. A certain fraction of neem extract can completely prevent some insects from laying eggs on treated surfaces. Technically this activity is known as 'oviposition' (egg laying) deterrence.

Application of either the crude fraction or the active components completely prevents potato tuber moth from laying eggs on treated surfaces for 7-9 days and some other species of mosquitoes for 2-3 days. Prevention of egg laying by then on crops or stored commodities can provide almost total protection from insect damage.

The NCL findings have clearly identified new neem products with a more effective dimension of activity. These, by themselves or in combination with other known components of neem could provide the safe and environmentally acceptable pest control agents of tomorrow. This discovery is now being tried out in fields and goodwns against the potato tuber moth and other serious pests of agricultural and public health importance.

After completion of the field trials NCL would offer feasible formulations which would be effective, safe, cheap and simple to produce. This is a significant achievement in that the products are non-hazardous and should conform fully to environmental regulations.

New Standards Published by ISI

India Sntandards Institution (ISI) has published an Indian Standard Methods of Test for Pulp Part XVII Determination of Saleable Mass of Pulp IS :6213 (Part XVII)-1979 which prescribes the method for determining the saleable mass of flash-dried baled pulp. This standard caters to flash-dried baled pulp only. Flash-dried baled pulp is usually manufactured with about 25 per cent moisture in pulp. Under Indian conditions, a moisture gradient occurs in various areas of the slabs comprising the bale. However, the saleable mass of the bale remains constant as it is computed on the basis of oven-dry mass of the pulp and the commercial dryness.

ISI has also published an Indian Standard Methods of Test for Pulp Part XVI Dirt Count IS : 6213 (XVI)-1978, which prescribes the method of numerical estimation of dirt in pulp. For obtaining good quality of paper, it is essential that pulp which goes into the manufacture of paper is clean and free of dirt. This method gives a comparative value of the dirt count of different pulp samples and is used to evaluate the pulps for their cleanliness and the nature of both inherent and obvious dirt.

An Indian Standard Specification for Monomethylamine, Technical IS : 8873-1977, has also been published, which prescribes the requirements and the methods of sampling and test for monomethylamine, technical. Monomethylamine is used as a corrosion inhibitor to protect aluminium against attack by hydrochloric acid. It also finds use direct in systemic insecticides, soil disinfectants, solvent for acetylene, surfactants for use in textile industry, oil additives, dyestuffs, intermediates, drugs and pharmaceuticals, photo-developers, explosives and guided missiles, etc.

All these standards provide for Certification Marking of the product manufactured according to the specifications, under the ISI Certification Marks, Scheme.

ISI has published an Indian Standard Specification for Aprons (Combing Leathers) for French Combs Used on Worsted Machinery, (IS : 8975-1978), which covers leather aprons used on the French combs for worsted spinning. The requirements prescribed in this standard are based on the results of extensive testing of the samples of indigenous combing leathers at Central Leather Research Institute, Madras.

Another standard published relates to General and Safety Requirements for Power Threshers (IS : 9020-1979), which lays down the general and safety requirements relating to the power threshers. Mechani-

zation of the threshing operations which played a pivotal role in ushering in an era of green revolution in the country also brought in its wake a chain of accidents to farm workers resulting in their temporary or permanent disability. This brought to the fore the need for some immediate measures to safeguard the farm workers against avoidable accidents be it due to any of the vulnerable factors of machine, man, etc. As a number of reports of many farm workers specially the young losing their limbs poured in, the urgency to provide for safety provisions became more pronounced.

Safety provisions for all the above factors of accidents are covered in three separate Indian Standards, IS : 9019-1979 Code of practice for installation, operation and preventive maintenance of power threshers covers the human, crop and situational factors. This standard covers the general and safety aspect relating to the accidents arising out of machine factor factor. The third Indian Standard "Technical requirements for safe feeding devices for power threshers' (under preparation) covers the requirements for safe feeding devices for threshers.

Another standard published by ISI is Indian Standard Specification for Chlormequat Chloride, Technical IS : 8961-1978, which prescribes the requirements and the methods of sampling and test for chloremequat chloride, technical. Chlormequat chloride is a plant growth regulant which usually induces retardation of shoot elongation and vegetative growth in most of the plants. It has been used in agriculture for increasing yields and improvement in quality in various crops.

These standards also provide for certification marking of the product manufactured according to this specification, under the ISI Certification Marks Scheme. Manufacturers desirous of taking licences for putting ISI mark on their productsmay contact the Indian Standard Institution.

Mechanical and Metallurgical Industries in Small Sector

Foundry, machine tools and industrial machinery are some of the very important industries which form the base for the development of other industries. Diesel engines, pumps, agricultural implements, building and road construction machinery and equipment are some of the products which have a multiplier effect in terms of overall industrial production, employment, etc. These industries which fall under the category of mechanical and metallurgical industries (MM industries) form the backbone of the industrial sector.

Small scale sector have contributed significantly in the light-engineering field. MM industries had their origin around post-World War II period in West Bengal and the Punjab. Railway and other industries which started in West Bengal created suitable climate for setting up a large number of foundry rerolling and other industries. Migrated population of the Punjab having skill and innovative talents jumped into the industrial field and their performance particularly in the mechanical and metallurgical fields have been recognised by all whereas West Bengal excelled in foundry (Howrah), industrial machinery, builders hardware, re-rolling, wire products, etc. the Punjab pioneered in the fields of bicycles and parts, hand tools, industrial machinery, machine tools, surgical instruments, agricultural machinery and implements, castings, rerolling, pipe fittings, builders, hardware, wire products etc. However, talents were not lacking in other parts of the country. Entrepreneurs from trading class concentrated on high turnover items and skilled artisans engaged their attention on products with substantial technological content. These two aspects and certain infrastructural facilities resulted in development of MM industries as industrial concentrations in certain pockets of the country.

Out of 2,400 products covered under small scale sector nearly one half constitute mechanical and metallurgical products. Out of 807 items reserved for production in the small scale sector, 380 are mechanical and metallurgical items. The output and employment in the case of MM industries in the small scale sector (registered factories) constitute about 42 percent and 47 percent respectively of the total small sector figures. Further, small scale MM industries output constitute about 15 percent of the output of the industries in all the sectors (cottage, small and large). The average growth rate for MM small sector (registered factories only-1966-70) has been observed as 9 percent. Analysis of the census figures for 1970 also shows that ratios like gross output to fixed capital, employment per 100,000 of investment and value added to gross output for MM industries in the small scale sector are 42, 24 and 0.23 respectively as compared to 5.3, 27.5 and 0.19 respectively for the small sector as a whole.

Small Industries Development Organistion (SIDO) statistics of 1976-77 show that as against an export of Rs. 8,780 million of small scale sector, export from MM industries is about Rs. 1,300 million which constitutes about 15.3 percent. While the growth rate of small scale sector exports is observed to be 35 to 40 percent, MM industries

have shown a rate of growth of 29 percent. Further, small scale sector MM industries exports constitute about 33 percent of the total MM industries export (large and small scale sectors). Out of 50 products indentified as export worthy items, nearly one-half come from MM industries. Castings, bicycle and parts, auto parts, hand tools, garage tools, diesel engines and pumps, builders' hardware, domestic utensils, wire products, industrial machinery and fasteners are some of the MM industries which have done well in the export field.

There are more than 6,000 foundry units in the small scale sector. According to the study made in the year 1973 by Mr R.D. Lalkaka for ECAFE, Bangkok, estimated investment, output and employment for this industry are Rs. 300 million, Rs. 1,200 million and Rs. 12 million respectively. The capacity utilisation is around 20 percent. Pig iron and coke of proper grade are not available promptly and regularly commensurate with the requirement. More and more units are introducing rotary furnace, machine moulding, sand testing etc. CI pipes and pipe fittings, man-hole covers, etc. are some of the foundry items substantially exported. There are 913 rerolling units in the small scale sector. Total installed capacity is around 4.6 million tonnes per annum and the capacity utilisation is about 40 to 45 percent. About 80,000 persons are employed in this industry. This industry is mainly concentrated in the Punjab, West Bengal and Uttar Pradesh.

The Punjab (Ludhiana) is the main concentration for bicycle and parts industry. Haryana (Sonepat), Delhi, West Bengal, Bombay, Hyderabad and Madras are other places where this industry has developed. There are about 2,000 units in small scale sector. Total number of units, production and exports of these items in the small scale sector for the year 1972 are 1217, Rs 300 million and Rs. 125 million respectively. This industry offers very good scope for development and exports. Small scale industry production constitutes about 50 percent of the total production.

Handtools industry has developed in the Punjab (Jullundur), Rajasthan (Nagaur) and West Bangal (Purulia). There are about 600 units in the small scale sector engaged in the production of hand tools. All types of vices (bench vices, pipe vice, carpenters' vice,machine vice etc.) hammers, pliers, spanners, wrenches screw drivers etc. are being manufactured. Production and exports from small scale hand tools units for the year 1975-76 are Rs. 90 million and 45 million respectively. There is an excellent scope for development of this industry to meet the ever increasing export demand. Small scale handtools production and exports constitute about 40 percent and 25 percent respectively of the total produetion and exports.

Diesel engines industry is concentrated in Rajkot (Gujarat). Kolhapur (Maharashtra), Agra and Ghaziabad (U.P.) and Coimbatore (Tamil Nadu). Pumps industry is concentrated mostly in Coimbatore. It is reported that there are about 800 units (as per 1972 census data) in small scale sector manufacturing diesel engines. Their production and exports in the small scale sector are estimated at Rs. 174 milion and Rs. 3.7 million respectively. A number of units are already covered by Indian Standards Institution (ISI) certification marking scheme.

With regard to pump industry, it is estimated that there are 600 units in the small sector and the production and export from this industry are Rs. 110 million and Rs. 0.6 million respectively, as per 1972 census data.

Domestic utensils are generally made out of stainless steel, aluminium, brass and copper. This industry is concentrated mostly in Jagadhri (Haryana), Moradabad and Mirzapur (UP), West Bengal and Rajamundry (Andhra-Pradesh). There are about 7,214 units engaged in this industry in the small scale sector. Production and exports (1973-74) from this sector are reported to be around Rs. 653.8 million and Rs. 8.6 million, respectively. Capacity utilisation is of the order of 30 to 45 percent for small scale sector utensil industry. This is manily due to lack of raw materials, finance and to some extent lack of domestic demand. Aluminium utensils industry is fast developing. The small scale share in the overall production is around 50 to 60 percent.

Lock industry is mostly concentrated in Aligarh (UP) and Dindigul (Tamil Nadu). As per 1972 census data. number of units, their production and exports are 185, Rs. 11 million and Rs. 0.4 million respectively. There is a good scope for development of die cast locks and number and matrice locks. The small scale share in the overall production is reported to be 65 to 70 percent.

Machine tools and accessories industry is mainly concentrated in Punjab (Batala and Ludhiana), West Bengal (Howrah), Gujarat (Ahmedabad and Rajkot) and Delhi. There are about 1,200 units (1972 figures) in the small scale sector manufacturing drilling machines, lathes, milling machines, double ended grinders, shaping machines, hacksaw machines, wood working machine, presses etc, and machine tool accessories. Their pro-

duction and exports in the year 1972 were Rs. 263.5 million and Rs. 2.7 million respectively. There is a very good demand for light machine tools including bench models.

Sewing machine and parts industry is concentrated mostly in Punjab (Ludhiana). Most of the large units buy parts and components from small scale units and do assembling and testing. There are about 276 units (1972 figures) manufacturing domestic sewing machines and parts. Production and exports from these units is reported to be Rs.34.3 million and Rs. 2.2 million respectivly. There are also units manufacturing industrial sewing machines. There is a good demand for industrial sewing machine and parts.

The autoparts industry is concentrated mainly in Delhi, Bomby, Jullundur (Punjab), Vijaywada (Andhra Pradesh) and Madras (Tamilnadu). In the small scale sector, there are adout 1100 units manufacturing this product. Their production and exports are reported to be about Rs. 1,900 million and Rs. 100 million respectively.

For improving quality, SIDO has set up Regional Testing Centres at Delhi, Bombay Calcutta and Madras. Testing facilities are also provided by ISI, Council of Scientific and Industrial Research (CSIR) laboratories and other organisations. There is a need to identify the testing facility requirements of some of the industrial concentrations where such facilities do not exist.

Agricultural machinary, implements and tools industry have been growing mainly in Punjab, Haryana and Uttar Pradesh. Other States have somehow lagged behind. There is very good scope for developing this industry all over the country. Taken up with the growth of the agricultural production, agricultural products processing machinery industry also needs development and expansion. Diesel engines and pumps industry development needs more attention, consumer durable like bicycle and parts, autoparts, hand tools and garage tools, etc. have excellent scope not only for domestic market but also for exports. Items like builders' hardwares, wire products, fastners, domestic utensils, wooden, steel and aluminium furniture, cutlery items, ferrous and non-ferrous castings and industrial machinery are some of the MM industrial products which have good scope for development.

Other such items are : scientific instruments; chemical, leather, ceramic and pharmaceutical machinery; textile machinery components ; pipes and pipe fittings (including forged pipe fittings) ; sockets and valves (including forged valves) ; watches and parts (including cases and dials) ; light machine tools ; spectacle frames (metallic) ; aluminium anodised ; novelties ; decorative building fittings; metal fittings for leather item : locks ; electroformed screens ; welding equipment ; cigarette lighters ; bathroom and kitchen scales ; auto garge tools ; pilfer proof caps ; projectors including overhead and slide proejections ; hosiery machine ; wick stoves (10C/IIP design). refrigeration plants (like bottle coolers, water coolers, deep freezers, shrillers, etc.), parts and components ; servicing units like machine shop, heat treatment shop, tool room electroplating shop, carpentry, foundry, forging shop etc. □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	*Date*
Indian Exhibition Dubai	January 15—24, 1980
Indian Exhibition in Manila (Philippines)	Feb. 23—March 2, 1980
Cairo International Fair, Cairo	March 8—22, 1980
Leipzig Spring Fair	March 9—16, 1980

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economic and commercial news

News Highlights

High-value Business Deals at IITF '79

India International Trade Fair, 1979 is getting an encouraging business response. The aggregate business transacted at the Fair has scaled upto Rs. 1800 million within less than three weeks since its inauguration on 10th November, 1979. The business deals include a wide range of products such as readymade garments, jute goods, leather products, shoe uppers, coffee, spices, medicines construction materials, electronics goods, woollen carpets, sulphur and engineering. items, for supply to a number of countries.

Indo-Polish Trade Pact

India and Poland have recently signed a trade protocol which envisages a total trade turnover of Rs.2,000 million in 1980. The target for trade turnover set for 1980 is 10 to 11 percent higher than the target set for 1979.

(Contd. on page 2)

Export Performance and Potential

Generation of Significant Business at IITF 1979

India International Trade Fair 1979 has been proving to be a great success. Total business transacted at the Fair has amounted to Rs. 1800 million within less than 3 weeks since its inauguration on 10th November, 1979.

Of this, the value of business deals actually concluded so far approximates to Rs. 1500 million and the remaining Rs. 300 million worth of exports are under finalisation. The deals finalised include the sizeable contracts signed with M/s. Raznoexport of USSR in the Soviet pavilion at the Fair for the supply of Indian ready-made garments including bed covers worth Rs. 216 million. The Indian firms which concluded these contracts are M/s. Milton, Bombay, Wings Wear, New Delhi, Avis International New Delhi; AMD Corporation, New Delhi; Duncun International, Bombay; Excel Wear, New Delhi; Cots Garments, Goa and Libas Impex, Bombay.

The contracts signed at the Fair include those for the supply of mica to USSR and GDR; bicycles to Italy and Iran; construction material to Seychelles; coffee, castor oil, leather, shoeuppers, spices and medicines to USSR; jute goods, leather products and consumer goods including calculators, transistors, entertainment electronics, cotton garments, and knitwear to Bulgaria; garments and leather items to Hungary; and woollen carpets and shoe uppers to the German Democratic Republic.

A sizeable deal finalised by the pavilion put up by Haryana State Government was for the manufacture of mini-steel plant and reclaimed rubber in

Indian Firm Bags Sudanese Order

According to a commercial report from Embassy of India, Khartoum, an Indian firm, M/s. Harprashad and Company, New Delhi has been awarded a tender for the supply of fishbolts and fishplates floated by the Sudan Railways Corporation at Abara. The order is valued at $ 0·4 million approximately.

Indian firm Awarded Morrocan Contract

An Indian firm, M/s. Vani Vilas Estates, Company, Niligiris has concluded a 5 year contract with the ONTS (Office National due The et du sucre), for the supply of 1000 tonnes of green tea per annum to Morroco.

Promoting Volume of Exports

The Working Group on Export Houses has recommended to set up specialised international marketing organisations with principal function of export marketing. These bodies should have an extensive marketing network abroad and an effective procurement machinery at home.

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Kenya on a turn-key basis. This contract is worth Rs. 150 million.

Additionally, numerous trial orders have been received by a host of small and medium participants for a wide range of products such as woollen carpets, wood-working machinery and machine parts to the Federal Republic of Germany and Nepal, among others.

The business reported to be in the pipeline is being mainly negotiated by the State Government pavilions, such as Haryana, Punjab, Delhi, Kerala and Andhra Pradesh. The negotiations by the Haryana pavilion are for copper ware, tool room equipment, grinders, hand tools and refrigerators to the tune of Rs. 150 million. The customers for these items are Australia, Bhutan, Cuba, Libya, Kenya, Malaysia and Seychelles.

Similarly, the Delhi pavilion is negotiating for exporting automobile parts, printing machines, welding equipment, castings and forgings, machine tools, electrical appliances, building hardware and readymade garments to the extent of Rs. 80 million to many customers including Nigeria, Kuwait, Saudi Arabia, Sweden, USSR and West Germany.

The Business Information Centre at the International Fair (New Complex) has contributed substantially to bring together potential buyers and Indian participants. The Centre has extended its services to a number of non-participating firms also.

Business worth Rs. 50 million has also been finalised for import into India of industrial raw materials like sulphur and also power generating sets.

In addition, internal trade among Indian participants amounted to Rs. 1.5 million for a variety of products such as, machine and hand tools, boring machines, grinders, printing machines, textile machinery and so on. Counter sales are equally brisk for souvenir items, consumer goods, spices and handicrafts. The business reported on this account is worth Rs. 5 million.

Forging Indo-Botswana Rail Cooperation

The Government of India will assist the Botswana Government to manage and operate the Railways in the event of Botswana Government's taking over the total management and operation of the Railway system in the country, according to the Minutes of Understanding signed recently in New Delhi. The Chairman, Railway Board and Principal Secretary, Ministry of Railways, Mr. M. Menezes, who signed on behalf of India, described the Agreement as first but an important step towards forging formal links between the railways of two countries. The other signatory, Mr. N.T.K. Mmono, Permanent Secretary, Ministry of Works and Communications, Government of Republic of Botswana, said that the Agreement offered immense possibilities of friendly and fruitful cooperation between the two countries.

It has been stated in the Agreement that the Botswana Ministry of Works and Communications will explore possibilities of progressively taking over responsibilities function by function, activity by activity or section by section, as part of their phased programme for eventual formation of the Botswana Railway system by 1984-85. If such a plan materialises, the Rail India Technical and Economic Services Limited (RITES), a public undertaking under the Union Ministry of Railways, can assist the Botswana Ministry of Works and Communications, provided the control of the

various functions, activities or sections fully rests with the Botswana Government.

It has also been decided that the RITES will assist the Government of Botswana in organising and setting up facilities for training of Botswana personnel.

In pursuance of the aforesaid objectives, Botswana Ministry of Works and Communications or their agency will enter into a contract with RITES and, for this purpose, the two organisations will meet and consider the modalities of cooperation in the near future.

Surge in Handloom Textiles Exports

There has been a notable step-up in the export of Indian handloom goods over the years. This bears an eloquent testimony to the fact that handloom products have come of age and are in great demand in international market. The exports of handloom goods about a decade back were only of the order of Rs. 150 million. The export in the subsequent years made steady but continuous growth. During 1970-71, the exports, were of the value of Rs. 256.10 million. From this humble figure, the handloom exports witnessed creditable progress and reached an all-time high of Rs. 2721.50 million during 1976-77. The value of exports during 1977-78 was in the neighbourhood of Rs. 2584.30 million. The marginal decline in the exports of handloom goods during 1977-78, compared to 1976-77, was due to the restrictive policy adopted by the EEC and USA on import of certain sensitive categories of garments, viz. shirts, blouses, dresses, skirts and trousers. Based on the provisional figures, the value of exports during the first nine months of 1978-79 was estimated to the around Rs. 1853.9 million as compared to Rs. 1854.7 million during the corresponding period of 1977-78. Exports during 1978-79 are expected to exceed the target of Rs. 2740 million.

The following table gives the steady growth of handloom export trade in the different product groups :

(Value in Rs. 10 million)

Year	*Cotton*			*Silk items*	*Other non-cotton items*	*Total*
	Fabrics	*Made-ups*	*Garments*			
1970—71	7.79	5.54	2.07	10.04	0.17	25.61
1971—72	10.01	6.71	5.94	7.15	0.26	30.07
1972—73	16.63	7.02	16.01	8.30	0.50	48.46
1973—74	32.06	9.53	35.00	12.37	0.62	89.58
1974—75	29.14	13.25	65.00	12.29	1.27	120.95
1975—76	39.35	13.28	123.56	16.47	2.40	195.06
1976—77	53.17	22.22	173.64	22.50	0.61	272.14
1977—78	81.59	34.54	109.42	31.61	1.27	258.43

The surge in exports have been due to the concerted efforts of various Government agencies engaged in promotion of exports. They are : Handlooms Exports Promotion Council, Central Silk Board, Apparels Export Promotion Council, Cotton Textiles Export Promotion Council, Silk and Rayon Export Promotion Council, and Wool and Woollens Export Promotion Council. These agencies bring out their publications periodically and give information about their export performance trade circulars, enquiries, market information, restrictions on import, export trade etc. It would pay an exporter to become members of these councils and get their publications to be up-to-date with export markets.

As a measure of further stimulating exports, 20 export production projects were sanctioned during the years 1976-77 and 1977-78 in various states for undertaking the production of quality handloom products for export purposes. On an average each project covers 1000 looms over a period of five years. An average outlay of Rs. 4 million has been prescribed for each of these projects which are wholly centrally-aided schemes.

It may be mentioned that India's handloom industry is spread throughout the country and a handloom is striking its steady rhythm in almost every village. It is a cottage industry in the best sense of the term, as the work is done largely in the home of the weaver himself. It is significant that with 3.8 million handlooms, this sector produced over 2720 million metres of cotton textiles during 1978. This is more than 25 percent of the total cotton textiles produced in the country.

The importance of handloom industry in Indian economy can be guaged from the fact that in terms of economic impact on rural employment and income, it is next only to agriculture. From the stand-point of the consumer, it is meeting a substantial part of market requirements and its production patterns are selective and finely tuned

to local and regional demand patterns. Under the new handloom development programme, it is sought to enlarge the base of production to move to a target of 3,700 million metres of cloth by the end of the Sixth Plan. The main objective under this programme is to provide steady and sustained employment to a sector which is characterised by periods of idleness and low income. The base of production is being enlarged by activising the existing looms through-out the country and also diversifying the production. Support and assistance to the weavers in design and technology is provided through twenty two Weavers' Service Centres and two Institutes of Handloom Technology at Varanasi in U.P. and Salem in Tamil Nadu.

Boosting Gem and Jewellery Exports

The exports of items covered by the Gem and Jewellery Export Promotion Council have made impressive strides in the last few years, its export performance during the year 1978-79 placed at Rs. 7270 million being a record. Additionally, it may be noted that exports of these items are already forging ahead as the single-largest group of exchange earners in the country.

In order to further improve upon these exports and enlarge their share in the world trade, the Gem and Jewellery Export Promotion Council has taken steps in several directions, such as taking up new projects; initiating training programmes for artisans and craftsmen at the grass root level etc. The Council has been offered and assured assistance from World bodies like the International Trade Centre (ITC), Geneva—a wing of the United Nations Organisation; All India Handicrafts Board (AIHB); Handloom and Handicrafts Export Corporation (HHEC); etc. The collective and concerted efforts by all these bodies and the Council are expected to make it possible for the exports to cross Rs. 10,000 million in the near future and reach a possible target of Rs. 20,000 million within next five years. The following steps have been taken by the Council to achieve the above objective :

(i) To provide training to gemstones artisans in cutting and polishing colour stones as well as diamonds in the country, the Council has set up a Gemstones Artisans Training School at Jaipur which is doing commendable work. It has already trained a few batches of trainees. The Indian Diamond Institute at Surat set up in May 1978 is also making good progress. Here in this Institute, training is imparted to students not only in the technique of cutting and polishing diamonds but also in the entire process of diamond business like procurement of raw materials, banking and insurance, export-import procedures etc., so that when the students pass out of the Institute, they are capable of setting up their own export or manufacturing units.

The Council had sponsored a delegation recently to Belgium, the UK, and the USA to study the strides made by these countries in cutting and polishing of diamonds. The delegation studied in depth the nature and mode of training adopted in the training institutes and was impressed by the advances made by these countries in the cutting and polishing techniques. Steps are being taken to imbibe them to the extent possible keeping in view the conditions obtaining in within country.

(ii) A programme to provide trainin to the workers at their place of wo is soon to be launched through mobile audio-visual training pr gramme. Initially, this will be imparte in Surat and neighbouring towns lik Navsari, Bulsar, etc. and will be exte ded to other towns in Gujara gradually. These training programm will help increase productivity workers, improve production, and als the quality of goods processed. In th long run this will help us to increas our exports.

(iii) Already two marketing pro grammes sponsored by the Counci have been approved by the ITC. Thes include a market survey of South Eas Asian countries and another of th Middle East countries.

This apart, the ITC will provide assistance to candidates sponsored by the Council for training at the gemmological Institute of America in gemmology and jewel craft as well as jewellery making. The Council will be the sponsoring agency for this programme and efforts are on to select more candidates for the programme.

The Council also has on anvil a plan to set up a Jewellery Design Centre which would be manned by design experts; those familiar with designs popular and prevalent in India and also specially trained in designs popular in the leading user countries of the world.

To supplement efforts of the Council, the All India Handicrafts Board has earmarked funds towards research projects to be undertaken by the Council. The Council has written to several universities/institutes connected with gem and jewellery seeking nomination

of experts who could be entrusted with the task of conducting further research in various facets of the industry to be financed from funds made available by the AIHB to the Council. Council's suggestions for undertaking a census survey of diamond artisans in the Country has already been accepted by the AIHB and the project is likely to commence soon under the supervision of Prof. Pathak of the Indian Institute of Management, Ahmedabad.

In order to popularise Indian jewellery, the Council is organising a series of exhibitions abroad. The HHEC has recently held exhibitions in Abud Dhabi and Dubai.

Cardamom Exports Look Up

According to reports from Customs authorities, the export of cardamom during the first four months of current financial year (April-July, 1979) totalled 644 tonnes valued at Rs. 120.6 million with a unit value of Rs. 187.20 per kg. as against 580 tonnes valued at Rs. 100.6 million with unit value of Rs. 173.30 per kg. during the corresponding period last year. Thus the exports went up by 11 percent in terms of quantity and about 20 percent in terms of earnings during the comparable periods. Export during the off-season period April-August, 1979 is estimated as 700 tonnes worth Rs. 130 million.

The provisional export target for 1979-80 is placed at 3200 tonnes worth Rs. 640 million. If production goes up to 4000 tonnes, the export may also be up to 3500 tonnes valued at Rs. 700 million. The unit export price anticipated for 1979-80 is around Rs. 200 per kg.

The final estimate of production of cardamom for 1978-79 based on auction sales and direct sales by planters is placed at 4000 tonnes with state-wise break up as :- Kerela (2900 tonnes, Tamilnadu (300 tonnes) and Karnataka (800 tonnes).

The preliminary estimate for 1979-80 is placed at 4500 tonnes. The state-wise break-up is as follows : Kerela (3400 tonnes), Tamilnadu 300 tonnes) and Karnatak (800 tonnes).

Indo-French Technical Co-operation

The Indo-French Joint Committee on Science and Technology met in New Delhi last month. This was the first time when the Joint Committee met under the bilateral agreement on Science and Technology signed last year. A six-member French delegation was led by Mr. Jean Batbedat, Minister Plenigotentiary, Head of the Cultural Affairs Division in the Department of Cultural, Scientific and Technical Relations.

The Indian delegation was led by Mr. Maheshwar Dayal, Adviser in the Department of Science and Technology and included representatives from other scientific agencies.

The Committee finalised a programme of co-operation for the period 1980-81 in a number of areas of mutual interest, such as applied mathematics, computer sciences, S and T information system, certain aspects of ocean science and technology, optical and electro-optical instrumentation, solar energy applications and bio-mass.

Industrial Growth and Diversification

Output of Industrial Development Units Up

The public sector undertakings under the Department of Industrial Development produced goods worth over Rs. 128.5 million during the month of September, 1979, marking an increase of 20.09 percent over the output of the value of Rs. 107 million in the corresponding month last year.

The cumulative production of these units during the first six months of the current financial year (April to September) was of value over Rs. 674 million, which was 6.43 percent higher than the production worth Rs. 633.3 million in the period last.

The units which showed higher output during September, 1979 than in the same month last year are Hindustan Photo Films Manufacturing Company Limited (56.91 per cent), Instrumentation Limited (48.47 percent), Cement Corporation of India Limited (43.60 percent), and National Newprint and Paper Mill Limited (35.10 percent).

Rourkela Steel Plant Moves Forward

Rourkela Steel Plant earned a record net profit of Rs. 472.4 million during 1978-79. This is about Rs. 281.4 million more than the profit of Rs. 191 million earned by Rourkela in 1977-78.

The turnover of Rourkela Steel Plant has now crossed the Rs. 30,000 million mark and the plant is estimated to have contributed Rs. 7724 million to the state excheqner during the period.

Rourkela is now poised to achieve a more sophisticated product range in the 1980's. The Rs. 1100 million silicon steel project is currently being implemented to enable the plant to produce 37,500 tonnes of CRGO and 36,000 tonnes of CRNO silicon steel sheets by January 1981, to meet the requirements of the electrical industry. The hot strip mill modification scheme is also under implementation, at an estimated cost of Rs. 300 million.

The fertiliser unit of the Rourkela plant would attain its full capacity of 460, 000 tonnes of calcium ammonium nitrate, once the Rs. 186 million addi tional naphtha plant goes on stream. With the completion of the unit, profits of the Rourkela fertiliser comlex are expected to be doubled. The net profit of Rourkela last year also includes the profit of its fertiliser plant and relates to the earnings of the steel plant during the 11 month period from May, 1978- to March, 1979, after the restructuring of the Steel Authority of India Limited (SAIL), in May 1978.

Village Industries Vital for Rural Development

The three pillars of rural economy are rural industries, agriculture and animal husbandry and in the absence of rural industries there cannot be integrated development stated Mr. Bhanu Pratap Singh, Union Minister for Rural Reconstruction while inaugurating a conference of the Chairman of State Khadi and Village Industries Boards recently in New Delhi.

He said that there was too much pressure on land and, hence, there was need to diversify the occupational pattern in the villages. This could be done only by promoting and developing rural industries.

The Minister observed that khadi and village industries' programmes were mostly formulated on these three important parameters. He added that it was a matter of gratification that production, sales and employment under the khadi and village industries sector had increased. This programme had reached about 100,000 villages and efforts had to be made to cover the remaining 450,000 villages. In this connection, the Chairman of the State Khadi and Village Industries' Boards had a pivotal role to play inspiring their staff in their respective states for intensification of efforts for strengthening the public delivery system to the rural poor, he stressed. In view of the Centre's decision to have district industries centres in all the districts of the country, it was necessary, to establish linkages with the General Managers and Managers of cottage industries in their respective districts.

The Minister held that out of the 5,004 Community Development Blocks, about 3,000 blocks had been selected for integrated rural development and about Rs. 500,000 per block had been allocated for development of rural industries. There was, in addition, a Pro gramme for Training of Rural Youth for Self-E mployment (TRYSEM). Stipends, tuition fees and infrstructural assistance were provided by the Government of India to the training institutions under the TRYSEM scheme. Ways and means of utilising the Scheme for intensified efforts in rural reconstruction could be considered at the meeting.

Appreciating the work done by the Khadi and Village Industries Commission which had 5,000 sale-outlets in different parts of the country for selling consumer articles, the Minister said that all the sale-outlets should undertake the responsibility of selling essential consumer goods such as rice, wheat, edible oils, khandsari, gur, washing soaps and match boxes. Steps should also be taken to establish linkages with the public distribution system.

The Minister hoped that Conference would suggest practical steps for making the State Boards effective instruments for assisting rural artisans in eking out their livelihood through increased productivity and production. "Jobs have to be taken to the homes of the people instead of uprooting them from their villages in search of jobs in cities," stated the Minister.

The firm objective, he said, should be to provide gainful employment to all unemployed and under-employed people in the rural areas.

In the absence of Mr. Bhanu Pratap Singh at the meeting, the Minister's speech was read out by Mr. S.C. Varma, Secretary, Ministry of Rural Reconstruction.

Earlier, Mr. Som Dutt Vedalankar, Chairman of the Khadi and Village Industries Commission, outlined the programmes which the Commission, was undertaking and the problems faced by it in helping the rural artisans production.

Outlining the achievements of the Commission, the Chairman said that out of the five Zonal Centres for bio-gas proposed to be established in the country, one centre had already been set up. He announced that matches manufactured by the Khadi and Village Industries Boards would hereafter be distributed through the public distribution system.

Pick-up in Railway Earnings

The total aproximate earnings of the Railways in respect of passenger, goods and other items in the first

seven months of the current financial year (April-October, 1979) amounted to Rs. 13,272·10 million as compared to Rs. 12,192·90 million during corresponding period last year.

The increases on account of passenger earnings and goods traffic were Rs. 474·30 million and Rs 591·1 million respectively.

The passenger receipts in the seven months have shown an upward trend and are Rs. 82.50 million more than the targeted earning for the year 1979-80.

The overall shortfall in the earnings has also come down to Rs. 90 million for this period as compared to the revised target for the current financial year.

Central Excises and Salt Act Amended

The President of India promulgated on November, 24, 1979 an ordinance to amend the Central Excises and Salt Act, 1944 and the Additional Duties of Excise (Goods of Special Importance) Act, 1957, in so far as they relate to the leavy of Central Excise duty on cotton fabrics, woollen fabrics and man-made fabrics.

Recently, a High Court held that the term 'fabrics' (under Tariff Items 19 and 22 of the Central Excise Tariff relating to cotton fabrics and man-made fabrics) would not include 'processed fabrics' (that is fabrics subjected to processes such as bleaching dyeing, printing, etc.) and hence excise duty would not be leviable on processed fabrics as 'fabrics' under the said Tariff items but duty would be leviable under the residuary tariff heading No. 68 only on the value added by the processing of the fabric.

Consequently, the Court ordered that central excise duty collected in excess for a period covering three years before the institution of the proceedings before the court should be refunded to the processors of the fabrics.

Following this judgement, several more cases have been filed in different High Courts seeking similar decision.

As the High Court decision was not in accordance with what has all along been the intention of the Government and in order not to leave any uncertainty about levy of duty on fabrics, the previous Government had earlier decided to effect amendments to the Central Excises and Salt Act, 1944 and the Additional Duties of Excise (Goods of Special Importance) Act, 1957. A Bill for this purpose had also been actually introduced in the Lok Sabha on May 18.

Apart from the uncertainty in the assessment and collection of excise duty on fabrics, the decision of the High Court required immediate refund of atleast Rs. 300 million to the manufacturers. Further if this amount is refunded now, it would not reach in any case the ultimate consumers of the fabrics to whom they had been sold over the last several years and who had borne the duty paid by the manufacturers. Thus the manufacturer concerned would have reaped substantial windfall profits.

Having regard to these considerations and to avoid future disputes, Government have decided to give effect to the provisions of the Bill (since lapsed) by this Ordinance. It is not the intention to impose any fresh liability of excise duty either in respect of past or future clearances.

The ordinance only seeks to continue the scheme of levy and assessment of excise duty on fabrics and validate past assessments and, therefore, would not have any impact on the prices of fabrics.

IOC Pays Higher Dividend

A dividend cheque of Rs. 98.5 million was recently presented to the Minister for Petroleum, Chemicals and Furtilisers. for the year 1978-79 by the Chairman, Indian Oil Corporation (IOC). With this the latest dividend, the IOC has paid back to the Government its entire equity investment in the Corporation. The paid-up capital of the Corporation is Rs. 821.8 million. In addition, according to the Chairman, the IOC has buil up assets worth Rs. 3310 million for itself.

Congratulating the Corporation on its good performance, the Minister said that IOC had been able to achieve satisfying results despite great difficulties it had to face during the last financial year.

It may be added that the Rs.98.5 million dividend represents the largest amount paid by IOC to the Government since the Company was formed. It also represents 2 percent increase over the 10 percent dividend announced for the preceding year 1977-78.

New Business of LIC

The Life Insurance Corporation of India completed new business of Rs. 9782.5 million during the period April October, 1979. The seven-month business covered 818,500 policies in individual assurances business, including business procured abroad.

The Southern Zone, with completed business of Rs. 2981.6 million

and 268,866 policies, emerged on top followed by the Western Zone with business of Rs. 2487.6 million and 201,778 policies. The Northern, Eas'ern and Central Zones completed new business of Rs. 1654.3 million, Rs. 1360.5 million and Rs. 1298.5 million respectively. The number of policies issued by these Zones stood at 113,614; 126,685 and 107,557 respectively.

Amongst the divisions of the Corporation, Bombay division stood first with a sum assured of Rs. 1105.6 million. It is followed by Delhi and Calcutta with sums assured of Rs. 562.1 million and Rs. 465.1 million respectively.

In respect of number of policies also, Bombay Division stood first having completed 77,635 policies followed by Calcutta and Ahmedabad with 39,730 and 36,096 policies respectively.

Continuance of Credit Discipline Urged

In the absence of any seasonal fall in commodity prices during this part of the year and in the context of the reduced growth rates in agricultural and industrial output, the present regime of credit discipline and scrutiny will necessarily have to continue. This was emphasised by the Governor, Dr. I. G. Patel, at the meeting he had with the chief executives of major commercial banks in Bombay recently. The Governor expressed appreciation of the efforts of banks in bringing about a correction in the trend of non-food credit, but underlined the need for continuance of these efforts in the ensuing busy season. He reiterated that the expansion of non-food bank credit in the current financial year should be smaller than in the previous year in both absolute and percentage terms. What the Reserve Bank was trying to do, he said, was to regulate credit expansion and not stop it. The Reserve Bank had, therefore, been, selective in its policy measures.

The Governor announced that there will be no change in the statutory and cash reserve requirements and the incremental non-food credit-deposit ratio of 40 percent. Similarly, the 80 percent cut-off point in the peak level in cash credit and inland bills reached during the previous two years will continue beyond December, up to the end of March 1980. The position will, of course, continue to be reviewed and corrective action taken as needed. There will also be no change in the Reserve Bank's refinance assistance formula.

Dr. Patel referred to the additional demand for credit in respect of seasonal commodities and hoped that the banks should be able to meet this demand with proper advance planning. He assured the banks that the Reserve Bank will help the banks in meeting special problems; but he emphasised, the banks should endeavour to meet the additional demand from the resources available to them and not plan on the basis of recourse to RBI. He wanted banks to desist from meeting the demand for credit based on expectations of higher prices.

The Governor drew attention to two undesirable banking practices that appeared to have developed in the recent past among some banks, namely issue of guarantee to financial institutions and corporations for lending to others and acceptance of special deposits from institutions at higher rates of interest. These practices, he said, were contrary to the Reserve Bank's policy approach. He urged the banks to discontinue them immediately. He also underlined the importance of a certain amount of uniformity among banks in charging interest rates on advances.

Handloom Pavilion at IITF

The handloom pavilion at the India International Trade Fair 1979 is quite colourful in the 'M' Pavilion of Pragati Maidan. The handloom complex put up by the Development Commissioner, (Handlooms) seems to present the handloom sector in all its ramifications. Consistent with the primacy of place assigned to the handloom sector in the new economic strategy, the theme pavilion focusses its attention on problems, challenges and opportunities confronting the handloom sector and the efforts of the Government to restore it to its rightful place.

The theme pavilion contains display pockets depicting the breakthrough achieved in technology and R and D, economic programmes, the multi-dimensional uses of handloom products and janata clothing scheme. The multihued fabric displays serve as a dazzling backdrop to the looms producing them. Catchy slogans about handlooms and vignettes from the handloom world confront the visitors at strategic points. The handloom logo, mounted atop the entrance which itself is shaped in the form of a giant logo, will herald the visitors beaming its luminous colours in cascading brilliance.

The colourful varieties of cotton, silk and woollen handloom fabrics displayed at the pavilion projects the variety and verstality of handloom textures and designs. The pavilion in its totality of effect, presents handlooms as a modern commercially viable and forward-looking industry capable of holding its own against the mechanised textile industry.

Principal aspects of the handloom industry, the commitment of Government to revamp the handloom sector and assign it primacy of place in the current economic strategy, implementation of the handloom policy — all these are conveyed through visuals, maps, graphics, scripts etc. Myriads of slides and a documentary on handlooms is presented through audio-visual heightening thematic effect. Catchy slogans attract the visitors and inform him of many aspects of handloom industry.

A Nagaland loom and Varanasi loom adorns the beauty of the pavilion by giving live demonstration. People of all income groups and varying tastes get an idea of the varieties of handloom textiles produced within the country.

At the entrance of the handloom theme pavilion, the visitor sees a huge colourful handloom garland woven by weavers of Service Centre, Cannanore with a handloom map showing the handloom fabrics produced by them.

Improving Crop Productivity

A cheque for Rs. 477,000 was presented by Mr. Robert F. Goheen, Ambassador of the United States of America to India to Mr. Brahm Perkash, Union Minister for Agriculture and Irrigation, recently in New Delhi for strengthening research on photo syntesis and crop productivity under tropical environments.

This amount is a first instalment, by way of grant, for the project whose overall cost is estimated at Rs. 10 million.

The objective of the project is to improve crop productivity in India primarily by better utitisation of sunlight in the process of photosynthesis. Research in photosynthesis will elucidate many chemical and physical inter-relationships for the formation of complex organic materials from simple constituents like light, water, nitrogen and phosphorus.

This will be a co-ordinated project with the Indian Agricultural Research Institute (IARI) as the main centre. It will avail of the best talents at various other centres including the Central Rice Research Institute, Cuttack; the Indian Sugarcane Research Institute, Lucknow; the Madurri Kamaraj University, Madurai; the University of Hyderabad, and the Jawaharlal Nehru University, New Delhi.

The Project is the outcome of recommennations of the Sub-Commission on Science and Technology of Indo-U S Joint Commission which identified high-priority areas for collaborative research between research institutes in India and those in the USA.

Science and Technology

Additive Colour Viewer Developed

A multispectral additive colour viewer has been developed, for the first time in India, at the National Remote Sensing Agency (NRSA) at Hyderabad. This will be helpful in analysing multiband remotely sensed photographs. While the human eye can distinguish only a few grey levels, the viewer can distinguish a large number of colours on the basis of their hue, value and chroma. Additive colour viewer system allows introduction of colours to black and white multiband imagery, enabling the human interpreter to interact and discover more facts from the image precisely and rapidly.

Multiband black and white pictures are obtained from Landsat satellites or multiband aerial or ground camera. These pictures are projected on to the screen of the additive colour viewer through blue, green and red colour filters,. These are registered onto the screen by adjusting various optical parameters of the system. The output picture registered is a colour version of the input black and white imagery. The additive colour viewer has four channels. Each channel is provided with the light intensity control to vary the intensity of light. This facilitates different colour combinations, leading to better and accurate interpration of the image. The colour composite can be either of false colour to provide added contrast, or of natural colour as seen on the ground. Provision is made to photograph the colour composite on either colour transparency or colour print paper. Precision mechanical systems are provided for proper mounting, registration and uniform illumination onto the screen.

The equipment is useful for analysing and interpreting aerial multiband photographs and Landsat satellite imagery for various natural resources like agriculture, soils, forestry hydrology, geology, minerals and land use. The equipment will serve as an important aid in the photo interpretation cells of State and Central Government departments. The equipment is also useful as in multichannel imagery viewing system in academic institutions and national laboratories for work related with image analysis.

features of the distribution policy for small scale sector for the year 1978-79 are given below :

(i) Additional allocations of raw materials for the year 1978-79 to small scale units to such an extent that the combined additional allocation together for 1977-78 and 1978-79 does not exceed 200 percent of the allocations made in the year 1976-77 in respect of 18 bulk drugs appearing in the canalised list in the Import Policy 1978-79.

(ii) New units were being allowed release of canalised bulk drugs initially for a total value not exceeding Rs. 20.3 million. However, in respect of new units in the small scale sector set up by graduates/diploma holders in professional objects or by ex-servicemen, persons belonging to scheduled castes/scheduled tribes, and units set up in backward area, the maximum limit applicable was Rs. 0.5 million.

As regards Directorate General of Technical Development(DGTD) units, the policy for distribution of canalised raw materials for the first half of 1978-79 was to restrict allocations to 50 percent of the release of canalised raw materials made to such units during the year 1976-77. In respect of the second half of 1978-79, such units were entitled to receive release of canalised raw materials on the following basis :

(a) On the basis of their entitlement as per licensed capacities wherever capacities are defined formulation-wise, or

(b) to the extent of allocation of canalised raw materials to such units during the year 1976-77, wherever capacities are not defined formulation-wise.

The (Hathi) Committee on Drugs and Pharmaceuticals Industry had recommended the setting up of a National Drug Authority, which would be an autonomous body handling all matters concerning the future expansion of the drug industry licensing. Since the setting up of an independent authority on the lines suggested by the Committee was not considered feasible, Government have, instead, set up a field organisation in the Department of Chemicals and Fertilisers under a Development Commissioner (Drugs). □

Programme of India's Participation in the Forthcoming Trade Fairs/Exhibitions Abroad

Event	*Date*
Indian Exhibition Dubai	January 15—24, 1980
Indian Exhibition in Manila (Philippines)	Feb. 23—March 2, 1980
Cairo International Fair, Cairo	March 8—22, 1980
Leipzig Spring Fair	March 9—16, 1980

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economic and commercial news

News Highlights

Indian Company Bags Iraqi Irrigation Project

The National Projects Construction Corporation (NPCC), a premier construction contracting organisation under the Union Ministry of Energy, has been awarded the work of constructing 35 km. long Nahar Saad project canal including its concrete lining and other structures in Iraq worth nearly Rs. 140 million, by the State Organisation of Soil and Land Reclamation, Government of Iraq. This is the first irrigation project by any Indian company in Iraq against stiff global competition.

Indian Jewellery Show in UAE

An exhibition and the fashion show of Indian gold jewellery concluded in the United Arab Emirates (UAE) recently. The show was held in Abu Dhabi and later on in Dubai. It was organised by Handicrafts and Handlooms Export Corporation (HHEC) with active cooperation of Air India and the Embassy. The total sales amounted to over Rs. 10 million. Abu Dhabi TV made a twenty minuts special film on the exhibition and fashion show.

(contd. on page 2)

Export Performance and Potential

India International Trade Fair 1979—A Great Success

Speaking on the occasion of the closing ceremony of the month-long IITF '79 on December 9, 1979 in New Delhi, the Union Minister of Commerce and Civil Supplies, Mr. Hitendra Desai said that the Fair had attracted participation of industry and trade and visits of businessmen, delegations and high dignitaries from different parts of the world as well as from all Indian States. It had also been consistently drawing large crowds of people drawn from all walks of life and about two million persons had visited the Fair. This had thus been of great educative value besides serving as a useful instrument of trade promotion and international economic cooperation, he observed.

The Minister pointed out that this was the first international fair organised by the Trade Fair Authority of India. He hoped that judging from the interest which industrialists, trading establishments, technologists and governments of several countries had taken in developing business possibilities through it, the Authority will be able to build upon the foundations already laid for an expanding structure of trade promotion activities. This would also, he remarked, fulfil a felt need in this part of the world for the development of a sophisticated system of this type. He was sure that international participation in these activities will greatly contribute towards the expansion of mutually beneficial trade and collaboration in various fields.

Oversea Sub-Contract for an Indian Company

M/s International Building and Furnishing Co. Ltd., New Delhi have won a sub-contract valued at US$ 300,000 for supply, assembly and erection of wooden door frames at a housing project undertaken by the South Korean firm Chin Hung International, Inc., says a commercial report from the embassy of India, Kuwait.

Indo-Nepal Pact

The public sector Computer Maintenance Corporation (CMC) and the National Computer Centre of Nepal have recently signed an agreement in Kathmandu. Under this agreement, the Indian organisation would provide a resident computer engineer for an initial period of six months for maintenance support to the Centre. The CMC would also provide advance training in maintenance to Nepalese computer engineers in India. This is said to be the first agreement of its kind in the computer field in the region.

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Referring to the importance of fairs and exhibitions, the Minister held that they, whether of specialised nature or of general character, provided a useful forum for exchange of products and fast developing technologies the world over. They also helped to assess the untapped resources for strengthening economic relations among nations and individual enterprises. He added that the developing countries in particular had a special need for this as the vast potentialities of their growing economies lay unexplored. Citing India's instance, the Minister disclosed that she offered to the world today innumerable opportunities for not only product exchanges but also for technological collaboration in various spheres and this potential had to be projected on as wide a canvas as possible. Indian industries were already participating in trade fairs and specialised exhibitions in a large number of countries and he hoped that the governments and entrepreneurship of these countries will also take part in the fairs held in India.

The Minister continued that an attempt had been made at the present Fair to present not only some meaningful and concrete opportunities for transaction of business but also to show in a miniscule the cultural life of the country. The exhibitions of arts and crafts, the books fair and the cultural shows organised around the complex of industrial expositions of various countries had broadened the perspective of understanding so vital to the development of human relations at all levels, he said.

Earlier, Mr. Prem Nath, the Managing Director of TFAI said that IITF '79 had been conceived on the pattern of a modern dynamic international marketing forum. It had served as a meeting place for enterpreneurship in different spheres of production,technology and commerce, from various regions of the world as well as from all parts of India. Quite a few thousand buisness interests were represented at the Fair. In this sense, the Fair marked the begining of a new series of multi-faceted trade promotions in India, he added.

The Managing Director pointed out that the President of India, while inaugurating the Fair, had observed that the world community, by and large, was dependent on the free exchange of commodities, manufactured goods, technology and expertise. In the ultimate analysis, it was the bringing together of the producer and consumer which was important. Occasions like the India International Trade Fair, he had said, had therefore a distinct promotional aspect and served a useful purpose in encouraging useful contacts. The present Fair had actually aimed at this very objective, the Managing Director remarked.

The Managing Director further held that International participation at both country and company levels represented the high level of development and sophistication reached by modern technology in various fields of industrial activities, It provided a bird's eye view of the widening scope for economic collaboration between India and the countries in Far East, South East Asia and Oceania, Africa, East Europe, West Europe, America and other parts of the world. Direct group participations in the national sector at the Fair included 11 Central Ministries and Departments, 21

Indian States and Union Territories, 25 public sector companies, 20 Export Promotion Councils and Commodity Boards and 74 industrial houses and business firms in the private sector. Behind this extensive representation lay a large number of ancillary industries and business associates of the participating units, he said.

The Managing Director informed that visits of 35 trade delegations consising of 230 delegates from 28 countries were organised to help promote the business effort of the participants. These countries included Algeria, Bahrain, Bangladesh, Bhutan, Botswana, Bulgaria, China, Cuba, Czechoslovakia, Ethiopia, German Democratic Republic, Guatemala, Indonesia, Kenya, Malawi, Nepal, Nigeria, Norway, Pakistan, Poland, Qatar, Saudi Arabia, Seychelles, Sweden, Tanzania, USSR, Yugoslavia and Zambia. Besides, a delegation of International Chamber of Commerce and delegates to the Atomic Energy Conference held at New Delhi also visited the Fair.

Referring to the business generation aspect, the Managing Director disclosed that the actual business transacted at the Fair as reported so far by the participants amounts to Rs. 2842 million approximately. Business negotiations underway and transactions in the process of being finalised were of the value of about Rs. 115 million. Some of the major items for which the contracts had already been signed were coffee (Rs. 500 million), ready-made garments (Rs. 216 million), aluminium (Rs. 150 million), chemicals (Rs. 100 million), pharmaceuticals (Rs. 60 million), garage equipment and industrial boilers (Rs. 100 million), mica (Rs. 131 million), shoe uppers (Rs. 55 million), construction materials (Rs.50 million), castor oil (Rs. 48.50 million), jute products (Rs. 25 million), carpets (Rs. 11.90 million), cosmetics (Rs. 70 million), etc. On-spot sales of exhibits and other merchandise were reported to the order of Rs. 1.36 million. He added that this broad picture was only symbolic of the much wider business possibilities generated at the Fair.

Indo-Soviet Protocol on Machine Building

India and the Soviet Union recently signed a Protocol of co-operation on machine building. The Dy. Minister, USSR Ministry of Heavy and Transport Engineering, Mr. E.I. Zvizjulev signed on behalf of his country and Mr. V. Krishnamurthy, Secretary, Department of Heavy Industry signed on behalf of India.

Considering the attractive scope for further co-operation between India and the USSR, particularly in the area of machine building, the fifth session of the Indo-Soviet Joint Commission, which met in Moscow in June this year, had decided to set up a Working Group on Machine Building.

The Working Group headed by Mr. E.I. Zvizjulev, Deputy Minister, USSR Ministry of Heavy and Transport Engineering (MINTIAJMASH) from the Soviet side and by Mr. V. Krishnamurthy, Secretary, Heavy Industry, Ministry of Industry from the Indian side held its first session in Delhi, November 12-16, 1979.

Prior to the meeting of the heads of the delegations, extensive discussions and in-depth examination of possible areas and scope of co-operation was carried out by a large number of experts from both sides. On the USSR side, the expert group was headed by Mr. B.N. Chefranov, whose earlier visit in July this year had led to orders worth Rs. 61 million having been placed on the Heavy Engineering Corporation Ltd., for supply in 1980 which was needed to fill up the idle capacity in some of its load centres urgently.

The discussions of the Working Group were held in an atmosphere of utmost cordiality and understanding. Both the leaders of the delegations expressed satisfaction that considerable progress had been achieved in furthering co-operation between the Soviet Organisations and the Soviet assisted Machine Building Plants in Ranchi, and Durgapur.

The discussions have opened a distinct possibility of supply of large volume of equipment by these Soviet assisted plants to Soviet Union and to third countries subject to an agreement being reached on prices and terms of contracts.

Equipment supply during 1981 and 1982 for steel castings and forgings to the tune of 17,969 tonnes and 52,562 tonnes during 1983 to 1985, i.e., total of about 70,000 tonnes by Heavy Engineering Corporation to the USSR have been identified.

Similarly, in the case of Mining and Allied Machinery Corporation Ltd. (MAMC), Durgapur, equipment to the tune of 10,480 tonnes for supply in 1981 and 1982 and 43,235 tonnes for

supply during 1983, 1984 and 1985, i.e., total of about 53,000 tonnes to the USSR and third countries being set up with the Soviet assistance have been identified.

The placement of these orders, expected to be finalised by March, 1980, will constitute another important milestone in the area of economic co-operation and traditional friendship between the two countries.

The protocol also envisages the posibility of continuous technological upgradation in the existing fields of manufacture of equipment and also manufacture of new type of equipment in HEC, Ranchi; MAMC, Durgapur and HEEP, Hardwar.

Growing Indo-GDR Economic Co-operation

The German Democratic Republic will assist India in developing the mining of lignite in the Kutch area upto a capacity of 5,000 tonnes per day to be used for power generation. The power stations to be set up will comprise one unit of 60 mw with potential for two more units of 60 mw each.

This has resulted from the follow-up action on the discussions the erstwhile Union Minister of Industry, Mr. K. Brahmananda Reddy, had on the cooperation projects of Indo-GDR important with the leaders of the German Demoeratic Republic during his visit to Berlin in September, 1979.

A team of experts from the German Democratic Republic visited the lignite site and held detailed discussions with the Gujarat Minister for Industries and the experts of the Gujarat Mineral Development Corporation and Gujarat State Electricity Board. The concluding discussions were held in Department of Heavy Industry.

The German Democratic Republic will also cooperate in the setting up of a briqueting plant which will provide alternative fuel for domestic and industrial uses, particularly in a region which lacks coal resources. This project will also help in saving the utilisation of precious forest resources for domestic fuel.

It was also agreed during the follow-up discussions that the assistance from the German Democratic Republic would be availed of in developing lignite resources in Jammu and Kashmir and Rajasthan for power generation and other industrial uses.

Export Orders Secured by Public Units

The public sector undertakings within the purview of the Union Department of Heavy Industry executed export orders worth Rs. 1020 million during first half of current financial year (April-September, 1979) as against Rs. 850 million executed during the corresponding period of last year and thus recorded an increase of 20 percent. The performanc of public sector in the field of exports, viewed in the overall context of engineering exports, where there has been decline of about 18 percent during the period April-August, 1979, is indeed encouraging.

The public sector units secured export orders to the extent of Rs. 560 million during the first six months of the current financial year April-September, 1979. The export order book position as on October 1979 is satisfactory with the orders valued at Rs. 9080 million as compared to Rs. 7800 million as on October 1978.

Indian Industrial Fair in Netherlands

Over 300 leading Indian manufacturers and exporters are expected to participate in an Indian industrial fair which is being organised by the Trade Development Authority in Rotterdam, Netherlands, in May 1980. The fair is being organised with technical and financial assistance from the Dutch Centre for Promotion of Imports from developing countries, Rotterdam. This will be the biggest fair of its kind to be organised in West Europe.

Besides endeavouring to project India's industrial image, the Fair will highlight the wide ranging capabilities of the Indian industry. The overriding emphasis will be on industrial products in the engineering and chemicals sectors.

An important business and trade centre in West Europe, Rotterdam attracts buyers from neighbouring countries like Belgium, Luxembourg, France, UK, West Germany and Scandinavian countries of Norway, Denmark and Sweden.

The Indian industrial fair will be spread out on a total of 12,000 sq. metres of covered space at AHDY' Complex having all the modern facilities for display and exhibition. The Complex has three big halls of 4,000 sq. metres each. In addition, there will be 10,000 sq. metres of open space for open air display.

A two-member Dutch delegation which recently visited India, had held discussions with the representatives of the

trade and industry associations in Bombay, Bangalore, Madras, Calcutta and Delhi. The Indian response to the Fair, according to the delegation, was very encouraging.

Indian exports have, in the last few years, undergone vast diversification. Traditionally, the country mostly exported semi-manufactured and consumer products like cotton textiles, tea, tobacco, handicrafts etc. to the West European markets. Recent years have seen a conspicuous shift from traditional items to engineering and chemical products having higher export potential in the developed markets. The Indian Industrial Fair will attempt to further consolidate India's industrial image in the West European countries.

Export Trend of Natural Silk Goods

The aggregate exports of silk goods—mulberry silk goods and tassar silk goods—amounted to 2.52 million sq.mts. valued at Rs. 111.37 million during the first quarter of the current financial year as against 2.71 million sq.mts valued at Rs. 86.05 million during the period April-June last year. Thus they recorded an increase of 29.4 percent in terms of value.

Export of mulberry silk goods stood at 2.12 million sq.mts worth Rs. 95.70 million during April-June, 1979 as compared to 2.46 million sq.mts valued at Rs. 77.08 million during the corresponding period of the preceding year, thereby reflecting an increase of 24.1 percent in their value.

India's main importers of mulberry silk goods are UK, USA, FRG, France, Switzerland, Belgium, Denmark, Hong Kong, Singapore, Saudi Arabia and so on.

As regards itemwise exports of mulberry silk goods, the carpets, dress materials, sarees and ready-made garments revealed upswing with the exception of scarves/stoles and ties during the period under review. Exports of carpets shot up to Rs. 27.22 million from Rs. 11.14 million; dress materials soared to Rs. 18.64 million from Rs. 12.96 million, sarees moved up to Rs. 21.16 million from Rs. 20.81 million and ready-made garments surged ahead at Rs. 11.76 million from Rs. 7.67 million during the comparable periods.

Tassar silk goods exports showed buoyancy both in terms of quantity, (56.3 percent) and value (74.6 percent). They climbed up to 400,000 sq.mts worth Rs. 15.67 million during April-June, 1979 from a quantity of 256,000 sq.mts valued at Rs. 8.97 million during the corresponding period last year.

Exports of mixed/blended silk goods earned foreign exchange to the tune of Rs. 267,000 while those of different qualities of silk waste netted in foreign exchange worth Rs. 2.90 million.

IDBI's Credit to Zambia

The Industrial Development Bank of India has concluded an agreement with the Government of the Republic of Zambia recently for making available to the latter, a line of credit to the extent of Rs. 100 million. The credit will be available for exports of machinery and equipment including initial spares from India. Exports from India and imports into Zambia under the line of credit will take place through normal commercial channels subject to the laws and regulations in force in the respective countries. Prices and other commercial terms for the goods to be financed under the credit may be settled directly between the exporters in India and the importers in Zambia.

The broad terms and conditions of the credit are as under :

(i) To be eligibe for finance under the line of credit, every export contract will require prior approval of IDBI in India and Government of Zambia (Ministry of Finance) in Zambia. Contracts must be entered into in Indian currency. Minimum contract value should be Rs 500,000.

(ii) Finance under the line of credit will be available for 90 percent of f.o.b. value of the contract. Accordingly contracts should provide for 10 percent of f.o.b. value being paid in advance (under letter of credit or otherwise and freight and insurance charges) where applicable being paid as down payment, both payments being made in convertible currency, through normal banking channels.

(iii)For the credit portion i.e. 90 precent of f.o.b. value as well as convertible currency portion i.e. advance and down payment as provided in the above subparagraph, irrevocable letters of credit will be opened by a commercial bank in Zambia on behalf of the Zambian importers through any of such offices in India of authorised dealer(s) as may be designated for this purpose by IDBI. There is no bar on other authorised dealers handling the export documents, but they will be required to have them negotiated through the relative office of the designated bank.

(iv) Any charges, commission etc. payable in India shall be to the account of the beneficiary and those payable

(*contd. on page 7*)

EXPORTS OF FRESH FRUITS

(Quantiy in tonnes)
(Value in Rs. million)

Items	1976-77		1977-78		1978-79*	
	Qty	Value	Oty.	Value	Qty.	Value
1. Oranges	4398.7	7.95	5,125,0	10.13	940.6	2.52
2. Mandarines clementines etc.	—	—	0.1	0.001	@	@
3. Lemons and Limes	184.0	0.84	151.8	0.88	108.7	0.77
4. Grape fruits	—	—	9.3	0.09	@	@
5. Citrus fruit n. s.	57.8	0.11	257.0	0.48	@	@
6. Bananas (fresh)	666.6	1.29	4.6	0.02	47.2	0.24
7. Apples (fresh)	348.0	1.24	589.9	2.04	10.0	0.06
8, Grapes (fresh)	36.2	0.27	83.6	0.75	151.0	1.60
9. Figs (fresh)	2.0	0.01	Neg.	Neg.	@	@
10. Pears and Quinces (fresh)	276.8	0.27	405.2	0.52	@	@
11. Apricots	15.3	0.03	9.2	0.12	@	@
12. Peaches	1.3	0.01	2.0	0.01	@	@
13. Plums	1.2	0.01	19.4	0.05	@	@
14. Sa. pota (chico)	74.2	0.36	116.4	0.55	115.5	0.6
15. Other stone fruits	21.8	0.09	61.7	0.28	@	@
16. Berries (fresh)	5.2	0.001	3.4	0.01	@	@
17. Pincapples (fresh)	180.0	0.8	108.7	0.49	61.4	0.30
18. Dates (fresh)	5.9	0.02	64.1	0.25	@	@
19. Tamarind (fresh)	169.8	0.36	909.6	2.68	1573.9	7.75
20. Guava	—	—	41.1	0.16	@	@
21. Pomegranates	42.2	0.08	19.6	0.11	@	@
22. Other fresh fruits	451.8	1.88	1187.9	4.51	965.9	3.04
Total	6957.8	15.68	9169.6	24.15	3774.2	16.88

Source : DGCIS, Calcutta.

* Provisional, based on daily list of Custom House.
@ Included under "other fresh fruits."

in Zambia shall be to the account of the buyer.

(v) Export contracts are required to provide for pre-shipments inspection by or on behalf of the importer. The letter of credit opened by a commercial bank in Zambia will, therefore, call for such an inspection certificate.

(vi) Last date of drawal under the credit will be 31st March 1981.

3. Shipments under the credit will have to be declared on GR/PP forms as usual. The GR/PP forms should, however, bear a superscription reading 'Exports to Zambia under IDBI—Zambia Line of credit of 6th March 1979'. On receipt of full payment of the bills in the manner stated above, authorised dealers will certify the receipt of payment on the triplicate copy of the relative GR/PP form and forward it to the Reserve Bank of India.

4. For exports financed under the credit, no remittances of commission will be permissible from India. There is, however, no objection to commission being settled by deduction from the IDBI credit portion of value of exports (i.e. 90 percent of f.o.b. value). Payment of commission even in this manner will be subject to usual regulations, viz., they will require prior approval of Reserve Bank except where the agency agreements have been registered with the Reserve Bank and certificates of registration have been obtained by the exporters or the payments satisfy the conditions laid down in paragraph 11 H. 8 of the Exchange Control Manual.

List of items eligible for financing under the agreement are as follows textile machinery (including spinning, knitting, printing and dyeing equipment), chemical and pharmaceutical plant and equipment. equipment for bicycle plants, construction machinery, tankers for sulphuric acid and other chemicals, sugar factory machinery and ancillary equipment,, plant and equipment for manufacture and assembly fo various motor vehicle components,, eleetrical equipment including transmission line tower, generators, transformers etc,, machinery for manufacture of leather and rubber products, machinery for manufacture of metal containers and other metal processing equipment, machinery and ancillary equipment for manufacture of, engineering goods, and electrical equipment and accessiories, agricultural machinery such as tractors, diesel engines with or without pumps, turbine pumps, low fit pmps, submersible pumps, fractional pumps and engines, pumps for tubewells, injector testers, strainers, accessories etc., railway equipment, transport eqnipment including buses, trucks jeeps etc. engineering components of machinery and equipment, initial spares alongwith the above mentioned items., any items not included above that might be agreed upon between IDBI and the Government of the Rapublic of Zambia.

Industrial Growth and Diversification

Production Trends in Steel

Steel plants under Steel Authority of India Limited (SAIL) continued to maintain the rising trend in production of ingot steel in the month of October 1979. Ingot steel production in the SAIL plants during October, 1979 was 554,000 tonnes, which is 10 percent more than the production in September, 1979 as well as the same month last year. With this, the public sector steel plants have almost made up the shortfall of ingot steel production during the previous months as compared to the period, April-October last year. The total production of ingot steel in the SAIL plants during the first seven months of the current financial year, (April-October 1979) was 3.52 million tonnes as compared to 3.53 million tonnes during the same period last year.

Similarly, the improved production of pig iron in SAIL plants in the month of September was maintained during October also. During October, pig iron production, at 93,000 tonnes, was about 34 percent more than the average monthly production of pig iron during the first half of this financial year. SAIL estimates indicate that pig iron shortages in the country are likely to disappear from this month onwards. The improvement in the output of ingot steel and pig iron in the steel plants under SAIL has been achieved as a result of increased availability of coking coal and more effective coordination with the railways.

The actual receipt of indigenous coal in the steel plants in October 1979 was about 1.1 million tonnes as compared to 1.05 million tonnes during October 1978. Total coal receipts, which during April-September 1979 had been about 470,000 tonnes less than in same period last year, thus improved substantially in the month of October 1979. The receipt of imported coal also improved during the month and was about 100,000

tonnes as compared to the average of 51,000 tonnes during the period April-September, 1979.

With the improved trend in the availability of coal, better co-ordination and follow-up with the various sectors concerned, SAIL is confident that this growth rate of about 6 to 7 percent in the production of ingot steel during the coming months of this financial year will be maintained.

Production of saleable steel in the SAIL plants during the period April-October 1979 at 2.59 million tonnes was less than the production of 2.85 million tonnes during the same period last year due to difficulties with regard to the availability of adequate power; however there is no other constraint at present. The accumulative saleable steel production in April-October this year has been 3.38 million tonnes as against 3.72 million last year, including both SAIL and TISCO.

Availability of steel to the economy during the first 7 months of the current financial year has been maintained at a level of about 7 percent more than the same period during last year; domestic availability of finished steel during 1979-80 is likely to be of the order of 10 percent over the previous year.

BHEL to Supply Electricals to Rourkela Project

Bharat Heavy Electricals Limited, (BHEL), a public sector undertaking, will supply electrical equipment to Rourkela Steel Plant for its Silicon Steel Project. The contract, worth about Rs. 120 million, includes complete system engineering and design of complex and sophisticated electrical systems to meet the stringent performance requirements of the silicon steel rolling and finishing process.

The Silicon Steel Plant of Rourkela, being set up at an estimated cost of Rs. 1100 million, will be the first of its kind in India, is a major step towards self-sufficiency in the manufacture of silicon steel sheets required by the electrical industry. Cold rolled grain oriented (CRGO) silicon steel sheets are used for the manufacture of electrical transformers and machines and are at present being imported.

The agreement for the supply of equipment, signed recently, will be for the annealing and pickling line, and preparation and finishing lines for the Rourkela silicon steel project. In addition, BHEL is also to supply electrical equipment for the decarburising and tandem annealing process lines for one of the mills of the silicon project.

Ensuring Adequate Supply of Aluminium

The Mineral and Metals Trading Corporation has since been authorised to go ahead and procure such quantity of aluminium as is necessary to fill the gap between supply and demand, in view of the likely impact of power cuts on aluminium smelters.

MMTC has so far succeeded in placing orders for 61,000 tonnes of aluminium and the Department hopes to make 90,000 tonnes of aluminium available on the basis of the orders already placed and the orders expected to be placed soon by the MMTC. Procurement action is being taken on a continuous basis and the process of contracting imports by the MMTC continues. Efforts are also being made to further increase the quantity, depending on the availability of aluminium in the world market, delivery periods quoted and the time taken for unloading at the port. MMTC has also been asked to take advance action for imports for the next financial year. The likely gap between demand and supply for 1980-81 had already been estimated and on the basis of these estimates, MMTC would be taking action to obtain the metal so that there were no shortfalls in supply.

At the beginning of the current year, it was estimated that the indigenous production of aluminium would be between 240,000 and 250,000 tonnes during 1979-80, as against the estimated demand of 325,000 tonnes. Hence, the target set for MMTC for the import of metal in the current year was 75,000 tonnes. This was in addition to 15,000 tonnes for the import of which BALCO had placed orders in the previous year and supplies would be materialising in the current year.

Production in the first six months of the current year showed an increase of 14 percent, having risen from 99,304 tonnes in April-September, 1978 to 113,299 in April-September this year. Output was, however, subsequently affected on account of power cuts imposed by the State Electricity Boards on the aluminium smelters.

Bokaro Solar Oil Plant

The solar oil regeneration plant of Bokaro Steel Plant has been commissioned, with indigenous plant design and machinery.

The plant is laid out in two streams, each having a rated capacity to handle 4 cubic metres per hour of napthelene rich solar oil, Naphthelene from the coke oven gas is recovered by means of solar oil in naphthelene scrubbers and the naphthelene rich oil is processed in this unit for the regeneration of solar oil in a continuously operated steam distillation system.

The plant will help in the recovery of valuable by-products from coke oven gas produced in the batteries.

Output in Eastern Collieries Picks Up

Output in the coal mines of the Eastern region has picked up with improvement in the levels of power generation at the Damodar Valley Corporation (DVC).

Average daily production in the mines of the Eastern Coalfields Limited (ECL) has risen to 75,000 tonnes from about 50,000.

In the mines of the Bharat Coking Coal Limited (BCCL), production average has increased to 65,000 tonnes a day against 50,000 tonnes on certain days earlier during the month.

Performance is expected to improve further if the DVC power situation stabilises even at the normal generation level of 600 to 700 MW per day.

Total coal production during seven months from April to October, 1979, at 54.95 million tonnes, has been about 800,000 tonnes higher than the output of 54.15 million tonnes during April-October, 1978. The mines of the Western Coalfields Limited (WCL) and those of the Central Coalfields Limited (CCL) which fall in Orissa and Madhya Pradesh, were not affected by power problems and production in these companies showed an upward trend compared to 1978-79. WCL produced about 7.4 percent more during the period, the output having risen from 13.08 million tonnes in April-October, 1978 to 14.055 million tonnes during the corresponding period of 1979. Similarly, CCL produced 12.074 million tonnes from April to October this year as against 11.634 million tonnes in 1978, recording an increase of about 3.8 percent. Since some of the CCL mines are located in Bihar, its rate of increase has been less than that of WCL.

Meanwhile, a programme of road construction in the Dhanbad district of Bihar has been finalised in consultation with the State Government and the programme of equipment procurement along with survey work is in progress. The BCCL is also taking steps to set up centralised coal dumps for sale of road coal so that customers do not have to go to the mines for coal supplies.

Enlarging Public Distribution System

The Minister of Commerce and Civil Supplies, Mr. Hitendra Desai, has stressed that the public distribution system and its expansion by enlarging commodity and population coverage be put on a permanent basis.

Addressing the first meeting of the Advisory Council of the Production-cum-Distribution Scheme recently in New Delhi, the Minister said that it should not be guided by only periodical shortages or price spirals of some commodities to activise public distribution system and softpedal it in times when prices were stable and there were no shortages. He pointed out that to give permanency to the system, it had to be made efficient so that the popularity of the public distribution outlets was sustained,

Referring to drought in some parts of the country, he asked the Governments of the drought affected States to strengthen the public distribution system on a war footing so that basic necessities of life, patricularly cereals, were made available to the people at fair prices.

The Minister told the Council that the country was once again passing through difficult times so far as the prices and availability of some of the essential commodities were concerned. Inflation today, he pointed out, had become a global phenomena and continued to be the most important problem confronting the comity of nations. For a developing country like India, inflation, he said, was cruel as it affected the most weaker and vulnerable sections of the community.

The Minister, however, noted that in spite of unprecedented drought conditions prevailing in large parts of the country and infra-structural bottlenecks particularly in respect of power and transport, since the terminal week of August 1979, inflationary situation had become subdued and some amount of stability in the general price level had been brought about. He quoted figures to show that all commodities wholesale price index between the terminal week of August,1979 and week ending November 10, 1979 had moved within narrow limits and the overall index moved within narrow limits and the overall index moved both ways between 218.8 and and 220.8 during these weeks. While between April, 1979 and August 1979, the average monthly rate of inflation was a little less than 3 percent, the same had come down to less than 1 percent in the two subsequent months of September and October, 1979. In fact, in October 1979, the

all commodities wholesale price index witnesssed a marginal rise of only 0.1 percent over the preceding month. He added that the inflationary pressures had been brought under check on account of the various measures taken by the Government during the past few moths and also because of the seasonality factor.

However, he emphasised the need for continued vigilance on the part of both the Central and State Government to take necessary remedial measures as and when the emerging situtation demanded. Supply management, in particular, assumed greater importance in commodities like cereals, edible oils and sugar, he pointed out.

The Minister concluded his address by emphasising the importance of enlarging the public distribution system and said that in the light of the present situation, it had become more relevant.

Allocations to States under Food for Work Programme

A total quantity of 226,150 tonnes of foodgrains; 134,050 tonnes of wheat and 92,100 tonnes of rice, has been released by the Government of India to the State Governments and Union Territories for the month ending November 7, 1979 under the "Food for Work" Programme.

The allocations Statewise are : Uttar Pradesh 37,000 tonnes wheat and 17,000 tonnes rice; Rajasthan 51,000 tonnes wheat, Bihar 23,000 tonnes wheat; West Bengal 25,000 tonnes rice; Haryana 5,000 tonnes wheat ; Pondicherry 100 tonnes rice and Chandigarh 50 tonnes Wheat. The total quantity of foodgrains released so far during 1979-80, under the programme, amounts to 1,361,450 tonnes (7,75,900 tonnes wheat, 5,45,550 tonnes rice and 40,000 tonnes coarse grains).

Under the "Special Food for Work" Programme, which is being implemented for generating employment in the drought-affected areas, 342,500 tonnes of foodgrains (136,750 tonnes wheat and 205,750 tonnes rice) have been released to the states. The allocations statewise are : Haryana 10,000 tonnes wheat; Madhya Pradesh 25,000 tonnes wheat and 75,000 tonnes rice; Uttar Pradesh 60,000 tonnes wheat and 40,000 tonnes rice; Jammu and Kashmir 3,750 tonnes wheat and 3,750 tonnes rice; Andhra Pradesh 30,000 tonnes rice; Himachal Pradesh 30,000 tonnes wheat and 2,000 tonnes rice; West Bengal 40,000 tonnesrice and Bihar 35,000 tonnes wheat and 15,000 tonnes rice.

Science and Technology

Test Tube Plants

The tissue culture technique has been used at BARC to devise methods for rapid multiplication of many economically important plants. In a broad sense, plant tissue culture means the growing of plant tissues and organs under a septic and defined nutritional and environmental conditions.

Methods have been developed at the centre for obtaining a large number of plantlets of the sandalwood plant (Santalum album L) known for its fragrant wood and oil. Tissue culture technique is especially useful for the sandalwood plant because it is essentially seed propagated and its vegetative propagation has not been successful. In 10 to 12 weeks several plants can be obtained in test tubes. Embryos are introduced in large numbers by the application of plant hormones in cultures of hypocotyl (part of the axis of a seedling). Embryos are isolated and grown separately on fresh nutrient medium where they develop into young, viable plants. Sandalwood plantations in many parts of the country are severely affected by the "spike disease", and attempts to control and eliminate the disease have met with limited success. Certain plantations are free from this disease and plants in them are believed to be also resistant to it. Propagation of such plants by the tissue culture method would certainly be of great advantage in saving this precious species from extinction.

Pineapple is another plant for which methods for mass propagation have been developed. By culturing dormant lateral buds on an appropriate nutrient medium, a large number of genetically, identical plants have been obtained in the test tube at BARC. These test-tube pineapple plants have undergone field trials at the Experimental Field Station of the Indian Institute of Horticultural Research at Bangalore, where they have flowered and borne fruits. Althougth vegetative propagation of pineapple is practised by farmers, only a maximum of 10 plants can be obtained under such conditions. By the tissue culture technique, from single crown (cluster of short leaves borne on the head of tha fruit), more than 6,000 plants can be generated by repeated culture in less than a year. This technique would, therefore be useful in the rapid multiplication of identical pineapple plants.

The tissue culture technique has found its application in genetics and in the plant breeding programme particularly in the production of haploids. (plants possessing half the normal number of chromosomes). Many of cultivated plants do not breed true to type. By resorting to conventional methods of inbreeding and backcross-

ing, it would take years of painstaking labour to produce pure strains. The use of haploids would be of immense value in the production of pure strains. The culturing of anthers and pollen would be a convenient method for production of haploids. Haploids have been produced on a large scale in plants like barley, in the UK and Canada, and have been successfully grown in the field as a part of plant breeding programmes for crop improvement. Among the various plants taken up at BARC for producing haploids are Bell Pepper, Mustard and Belladonna.

Another field of study gaining attention pertains to the production of pharmaceuticals and other products through plant cell cultures. Some products currently being made commercially by this process include viral substances and antibiotics anti-BARC's interest in this area of work has centered around medicinally important plants such as Tylophora indica Withania (Ashwagndha), Vinca, Mucuna (Kiwach) Hemidesmus and others, for exploring possibilities of isolating compounds of therapeutic value from them.

There are three major advantages in the propagtion of plants by tissue culture. Compared to conventional techniques, the time taken to grow the plant is drastically reduced. A typical example is that of the orchids. It takes about five years to get an orchid flower from the seed by conventional methods. Using the tissue culture technique, this period can be reduced to one year. Secondly, it provides a method by which an infinite number of plants can be obtained. Thirdly, since the tissue culture technique is essentially an asexual process the plants including all the traits.

Interest in plant tissue culture methods is growing very rapidly because the technique has become vital for pursuing a wide rang of fundamental and applied problems in biological research and development work. Future work in this area could help standardize important aspects of the technology and expand its use in industry and agriculture.

NAL's Data Logger System

The National Aeronautical Laboratory (NAL), Bangalore has designed and developed a 50 channel data logging system with complete signal conditioners for the Steel Authority of India (SAIL) for monitoring weather conditions at their Vishakhapatnam Steel Plant. The system has been designed to measure and record various parameters such as temperature, humidity, wind speed and wind direction.

The system basically consists of scanning modulies, scan. controller, high CMR instrumentation amplifier, analog-to-digital converter, realtime clock and Hindustan Teleprinter. The system has been designed to accept voltage signals from various signal conditioners and can accept 48 channels of information and print out the same using a teleprinter. The outputs of the signal conditioners are adjusted such that they are proportional to the engineering units of the parameter under measurement. These outputs are then fed to the data logging system. An averaging circuit incorporated in the system facilitates printing out the average value of each information in each channel during a known interval.

The novel feature of the system is that it scans the output of the signal conditioners one at a time at the rate of 100 milli-seconds per channel and stores the same in a memory after adding each value in the channel. This stores memory is scanned after an interval of either 2 minutes or 10 minutes, which is selectable on the front panel and the output of each channel is divided suitably to obtain an average value of the parameter under measurement. This averaged information in each channel is then printed out.

A crystal controlled clock has also been incorporated in the system which generates necessary control signals for operating the various logic system and also indicates the time of the day. The printout thus consists of the time of the day, the average value of the parameter and the parameter.

The system has been tested to evaluate its performance by the Data Logging System Pilot Plant of Systems Engineering Division. The experimental results obtained hitherto after intensive use of the unit in measuring various paremeters have indicated its satisfactory functioning.

The Systems Engineering Division has earlier developed and supplied a large numbers of data acquisition systems, ranging from 20 to 500 channels for use in diversified applications varying from road research to complex aircraft/ aerospace testing facilities.

Electronics Plan for 1978-83

One of the major activities of the Department of Electronics during 1978-79 was to evolve the Eleotronics Plan for the period 1978-83 as desired by the Planning Commission. The Planning Commission set up a Working Group on Electronics Industry for the Plan period 1978-83 under the chairmanship of the Secretary, Department of Electronics. The Working Group had 28 representatively chosen members from government ministries/

departments having substantial electronics programmes, control and state public sector undertakings, technological and research institutions, private electronics industry asssociations, etc. There were 22 terms of reference exhaustively covering the various aspects such as review of present status of the electronics industry in terms of capacity, production, consumption, imports, exports and science and technology programmes, and to suggest remedial action for major deviation; policy framework for the development of the industry; targets of production and capacity for 1978-83 and 1983-84; assessment of imports/ exports; role of small scale sector and additional steps required to assist it; role of central, state and private sectors; setting up of general infrastructural facilities; investment required to be made in the public and private sectors during 1978-83; indigenous development of critical raw materials and components; review of existing science and technology base from the point of view of technological self-reliance and to fill critical science and technology gaps/ intensify R and D efforts and the co-ordination and institutional arrangements for the effective monitoring and implimentation of the science and technology programmes; assessment of category-wise employment generation etc.

The Chairman of the Working Group set up eight subgroups in the following distinct areas of electronics : (i) consumer electronics, (ii) mass communications, (iii) control, instrumentation and industrial electronics, (iv) electronics for communication equipment, (v) aero space and defence, (vi) computers, (vii) components and materials, and (viii) science and technology. The terms of reference of the subgroups (i) to (vii) were the same as those of the main Working Group. The Subgroup on Science and Technology had the following terms of reference.

(i) To review the existing science and technology base and indigenous know—how in the country.

(ii) To review the prevailing organisation structure for S and T planning, coordination, implementation, monitoring and evaluation in the sector ; suggest suitable mechanism for follow-up.

(iii) Identify the requirements of S and T inputs/needs in the sector in terms of the specific programme, with outlay required to cover the identified gaps in S and T on the basis of review of the investments made by the Departments of Electronics and Science and Technology and its impact.

(iv) To suggest mechanism for adopting an integrated approach in areas in which several agencies/laboratories are operating and demarcating clearly the role and scope of work of each of them.

The secretarial support and preliminary background material to the subgroups were provided by the Information Planning and Analysis Group (IPAG). The subgroups finalised their report after having discussion over a few meetings. These reports were discussed by the main Working Group and a final report generated. The final report submitted to the Plannig Commission in October 1978 takes into account the points raised during discussion as well as the written comments sent by the members in the meetings of the Working Group.

In the report, the existing base of the industry has been analysed and bottlenecks identified. Necessary steps and policy options to eradicate these bottlenecks and to grow the electronics industry in a balanced manner, have been examined. The technology gaps and the futuristic trends in the various sectors of electronics have been discussed. The various measures required for boosting the electronics exports have also been discussed. Among other features, the Working Group has evolved profiles for period 1978-83 for targets of production investment required for central and state, and private sectors, foreign exchange requirements, employment generation and bank credit facilities required. These profiles have been worked out for various sectors of electronics. The salient features regarding these are discussed below.

The electronics industry, which had a total production of Rs, 5,085 million in 1977-78, has been estimated to grow to a level of Rs. 11,900 million in 1982-83 and Rs. 14,125 million in 1883-84. The total production for the period 1978-83 has been estimated at Rs. 43,680 million. This includes the highest production for consumer electronics estimated at Rs. 11,370 million. The investments for the central and state sectors and for thc private have been estimated at Rs. 4,560 million and Rs. 705 million respectively for 1978-83. The highest investment under the central and state sectors has been envisaged for communication equipment at Rs. 2,000 million and under private sector for components and materials at Rs. 400 million. The requirements of foreign exchange during 1978-83 have been estimated at Rs. 7,446 million. The highest requirement of foreign exchange is Rs. 3,443 million for the communication equipment. As regards employment generation, it has been estimated that more than 300,000 direct employment opportunities will be generated during 1978-83.

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economic and commercial news

News Highlights

Indo-Czech Trade Protocol

Under an annual trade protocol for 1980 in terms of the provisions of Long-term Trade and Payments Agreement signed recently between India and Czechoslovakia, a total trade turnover of Rs. 2000 million bothways has been envisaged which marks an increase of nearly 8 percent over the trade plan targets for 1979. Besides traditional and non traditional items already exported by India to Czechoslovakia, certain new items like chrome ore, industrial fabrics, opium alkaloids and 'Yezdi' motor cycle engines have been added in India's export basket for the first time.

Hike in Leather Products

Exports of leather and leather manufactures displayed buoyancy by soaring up to Rs. 2584.28 million in the first seven months of the current financial

(contd. on page 2)

Export Performance and Potential

Growing Trade Relations between India and Czechoslovakia

India and Czechoslovakia have signed recently annual Trade Protocol for 1980 in terms of the provisions of the Long-term Trade and Payments Agreement between India and Czechoslovakia for the continuation of the rupee trading arrangements between the two countries for the next five years. The Protocol was signed by Mr. Suresh Kumar, Joint Secretary, Ministry of Commerce on behalf of India and by Mr. J. Garcar, on behalf of the Government of Czechoslovakia. The Trade Protocol for the next calendar year envisages a trade turnover of Rs. 2000 million bothways and indicates an increase of about 8 percent over the trade plan targets for 1979.

It may be mentioned that India's trade with Czechoslovakia has registered a consistent growth in the past. Since the signing of the first Trade and Payments Agreement about two decades back, the trade has reached a record level of Rs. 950 million, starting from a modest level of Rs. 100 million.

Czechoslovakia, being a highly industrialised country in the East European region, has been an important supplier to India of rolled steel and steel products, seamless pipes and tubes, textile and printing machinery, machine tools, diesel generating sets and components, equipment and spares for projects set up in India with Czechoslovak collaboration. In return, Czechoslovakia has been importing from India mostly traditional items like coffee, deoiled cakes, iron ore, cotton yarn and jute manufactures

year from Rs. 1834.82 million during April-October, 1978, thereby marking a step-up of 41 percent. The increase has been mainly due to the larger finished leather exports valued at Rs. 1719.92 million.

Indo-Moroccon Scientific Accord

An Indo-Moroccon scientific and cultural cooperation agreement was concluded recently in New Delhi. The draft agreement envisages co-operation between the two countries in the fields of education, science and technology, culture media and tourism. The two countries will encourage the visits of mediamen, academicians and youth representatives.

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but some of India's non-traditional products like finished leather, woollen and synthetic fabrics, readymade garments, auto-ancillaries, builders' hardware, have also started moving to Czechoslovakia.

The trade negotiations between the two delegations were held in an atmosphere of cordiality and complete understanding. During the course of negotiations, both sides emphasised the importance and necessity of expanding and diversifying the trade pattern in order to ensure the sustained growth of bilateral trade with a view to doubling the trade turnover during the next five years. It is in keeping with this objective that certain new items like chrome ore, industrial fabrics, opium alkaloids and 'Yezdi' motor cycle engines, have been added in India's export basket for export to Czechoslovakia in 1980 for the first time.

Besides trade exchanges, economic cooperation between the two countries has been steadily growing and expanding over the years.Export of machinery and complete plants were greatly boosted by the signing in 1957 of a trade agreement. With Czechoslovak assistance, India built in that period, for example, the Walchand industries, Walchandnagar works for the manufacture of sugar factory equipment, Secured equipment for several mills, for insulator plants, cement and brick works, ceramic works for the construction of fibreboards and tyre plants. Czechoslovakia made deliveries of equipment for coal washing plants, forges tanneries, cigarette factories, breweries, etc.

Two inter-governmental economic agreements, concluded in 1959 and 1964, laid a basis for extensive cooperation in the construction of industrial plants in India. The largest plants built under these economic agreements is the engineering metallurgy works in Ranchi (Bihar), whose foundry has a capacity of more than 38,000 tonnes and the forge 67,000 tonnes. A plant for the manufacture of heavyduty machine tools was built in the vicinity of these works with Czechoslovak assistance. An important industrial branch built in India with Czechoslovak assistance is the production of power generating equipment. The two biggest plants are in Hyderabad/steam turbines, generators, pumps and Tiruchirapalli high press boilers, industrial fittings and pumps.

Other projects built as a result of Indo-Czechoslovak economic cooperation are, for example, industrial fertilizer plants, a pressure vessel plant and equipment for the chemical industry. Also started was the production of motorcycles, tractors and other products. Over sixty big and medium-size industrial plants, both state-run and privately owned, have been built with Czechoslovak cooperation.

Recently, the two countries have started industrial cooperation as a form of mutual economic relations. For example, an agreement was signed on the sale of licences and documentation for the manufacture of equipment for largecapacity cement works. An interesting cooperation is in the manufacture of hydrauulic shock absorbers for locomotives.

There is a relatively close cooperation between Czechoslovak scientists and

chnicians, concerned with the uilding industry, selected engineering ranches, metallurgy, problems of tro- icalization, the textile, chemical and ather industries and selected medical isciplines.

t present, economic relations bet- een Czechoslovakia and India are ntractually arranged by the follow- g agreements : Trade and Payments greement of December 4, 1974; Agr- ement on Economic Cooperation of ecember 5, 1973; Agreement on cientfic and Technical Cooperation f September 1973; and Agreement n Cooperation in Maritime Trans- ort of November 3, 1978.

n important role in the development f economic, scientific and technical operation is played by the Czecho- ovak-Indian Committee for conomic, Commercial and Technical o-operation, which was set up under ne agreement between the two overnments in January, 1967. The ommittee met in Prague for its 8th ession on June last.

ndo-German Scientific Cooperation

ndia and the Federal Republic of ermany (FRG) have emphasised the nportance and usefulness of the bila- ral collaborative programmes in ience and technology. The two sides ok into account the concern expres- d at the recently concluded UN onference on Science and Technology r Develoment (UNCSTD) for nproved international co-operation S and T. While reviewing the nplementation of the projects in S and under various agreements signed rlier, the two sides expressed satis- ction at the wide-ranging co-opera- tion between the two countries. It was felt that the S and T co-operation reflected the strong economic and cultural ties between the two countries. The need for exchange of young scientists between the two countries was emphasised. This emerged from the recent-talks held on co-operation between India and the FRG in various sectors of science and technology which concluded recently in New Delhi.

The German delegation was led by Mr. Hans-Hilger Haurschild, State Secretary in the Federal Ministry for Research and Technology (BMFT) and consisted of officials of this Ministry and of various German agencies participating in Indo-German scientific and technical cooperation. The Indian delegation consisted of Prof. M.G.K. Menon, Secretary, Department of Science and Technology; Prof. S. Dhawan, Secretary, Department of Space and other officials from the Departments of Atomic Energy, Space and Science and Technology as well as Council of Scientific and Industrial Research (CSIR), Indian Council of Medical Research (ICMR) and other Indian organisations.

Over the years, extensive co-operation in a wide variety of fields has been developed between India and the Federal Republic of Germany, such as, peaceful uses of atomic energy, space, life sciences, new energy sources and other sectors of science and technology. The agreement for co-operation in the peaceful uses of atomic energy and space research between the two countries was signed in 1971. In pursuance of this, the Nuclear Research Establishment (KFA) at Juelich and the Indian Department of Atomic Energy worked out a special arrangement in 1974 covering a number of fields of mutual interest. A special arrangement was also worked out between the Indian Space Research Organisation (ISRO) and the German Aerospace Research Establishment (DFVLR) in 1974 covering cooperation in various problems of space research and space technology. A separate intergovernmental agreement for co-operation in scientific research and technological development was concluded in March 1974. In pursuance of this agreement, special arangements have been worked out between Indian scientific organisations such as CSIR and ICMR and German organisations such as KEA and Establishment for Radiation Research (GSF).

The two sides noted that joint projects in a number of areas of mutual relevance and benefit have been taken up. One such project is the 10 kw solar power project at Madras. The two sides also discussed other projects relating to paraboloid solar collectors, solar water pumps and rural energy systems. Co-operative activity has also been going on in the areas of cancer research, medicinal plants, food technology, geosciences, mining technology, payload testing using Indian rockets, remote sensing, materials research, radiation protection.

The two sides felt that possibilities existed for further co-operation in these and other areas. Administrative and financial arrangements for the implementation of joint projects and exchange of scientists were also discussed.

Welcoming the delegation, Professor Menon said that Indo-FRG co-operation in science and technology had progressed fruitfully over the years to the advantage of both the countries. He said that besides the programmes of co-operation on science and technology

there existed individual projects on energy research and biomedical research were doing very well.

Tracing the growth of Indo-FRG co-operative in space research, Prof. Dhawan said that co-operative activities initially related to various technology aspects of satellites, satellite operation, space project management, space applications and space sciences. The co-operation was now entering a new phase of joint projects in sounding rocket experiment, remote sensing, plasma studies and communications. Dr. Haunschild said that both sides should aim at high standard of research and development and the stress should be on qualitative and not quantitative equivalence. He ageed with Prof. Dhawan's suggestions of emphasis on training and exchange of young scientists and harnessing of advance technology for practical uses.

As a part of continuing Indo-German co-operation in the field of space research, a rocket payload for attitude sensor testing (AST-2) was launched recently on the Indian high altitude research rocket of type CENTAURE IIB at the Thumba/Trivandrum launching site. The payload has been built in FRG by team of German and Indian scientists. Sounding rocket has been made by India. The flight was with rocket reaching a height of 148 km; all board and ground systems functioned in an excellent manner, Initial analysis of data obtained by telemetry shows that the objective of the mission has been fully realised. The co-operation between both the scientific teams has been excellent.

For implementation of the project" Altitude Sensing Techonlogy" (AST), phase 2 and 3, there are at present six scientists and engineers of German Aerospace Research Establishment, (DFVIR) in Trivandrum. The aim of joint project with ISRO is to progressively develop and to test board systems for rocket and satellite applications of "tomorrow". The present programme will serve the testing of a new-style interferometric sensor and a compact (solid state) television camera for adjustment with reference to constellations.

India Bags Iraqi Irrigation Project

The National Projects Construction Corporation (NPCC) a premier construction contracting organisation under the Ministry of Energy, has been awarded the work of constructing 35 kms long Nahar Saad project canal including its concrete lining and other structures in Iraq worth nearly Rs. 140 million by the state organisation of Soil and Land Reclamation, Government of Iraq. The project is located 25 kms north of Amarah city which is 135 kms from Bassrah.

This is the first irrigation project bagged by any Indian company in Iraq against global competition.

For NPCC, this is the second contract in Iraq. The Corporation is currently engaged in the construction of grain silos in Iraq in association with the Engineering Projects of India at a cost of nearly Rs. 130 million.

The Corporation has to its credit, construction of many complex, heavy civil construction engineering projects including dams, barrages, tunnels and hydro and thermal power projects.

Some of the prestigious contracts bagged by the corporation in India and Bhutan are Metropolitan Tube Railway Project in Calcutta Rs. 30 million; Chukha Project in Bhutan Rs. 112 million; Bansagar Dam in Madhya Pradesh Rs. 50 million; Bokaro Thermal Power Station Rs. 23.5 million; Panchet Dam Rs. 53 million; Barahmani Bridge in Orissa Rs. 9·8 million and Bhim Barrage in Bihar Rs. 60 million.

Indo-French Technological Cooperation

India and France recently signed a Programme of Cooperation in Science and Technology for years 1980 and 1981. The Programme was finalised at the conclusion of the first meeting of the Indo-French Joint Committee for Cooperation in Science and Technology held in New Delhi during the fag end of last month. The Indian delegation for the meeting was led by Mr. Maheswar Dayal, Adviser, Department of Science and Technology and the French delegation by Mr. Jean Batbedat, Minister-Plenipotontiary, and Head of the Cultural Affairs Division in the Department of Culture, Scientific and Technical Relations, Government of France.

The Joint Committee reviewed the progress in cooperation in different fields of science and technology between the two countries. India and France have some on-going programmes in the areas of applied mathematics and computer science bioconversion and algae research and electrical engineering for industrial applications. It was agreed that those should be strengthened.

The two sides identifiied several new areas for cooperation including solar

(*continued on page 6*)

Export of Leather and Leather Manufactures
(April-March 1977-78 and 1978-79)

Description	*1977-78 Quantity (Kgs)*	*1977-78 (Value Rs.)*	*1978-79 Quantity (Kgs)*	*1978-79 (Value Rs.)*
I. E. I. Tanned Hides				
Cow hides	4.42	125.30	4.88	150.37
Cow calf skins	1.19	75.55	1.30	102.43
Buffalo hides	0.13	3.26	0.17	5.56
Buffalo calf skins	1.91	95.54	1.57	102.52
E. I. Tanned skins				
sheep skins	1.64	170.28	0.98	110.13
Goat skins	2.39	234.46	2.07	207.67
Total	11.69	704.40	10.97	678.89
II. Wet Blue Chrome Tanned Hides and Skins.				
Cow hides		13.06		18.52
Cow calf skins		0.38		—
Buffalo hides		00,33		1.38
Buffalo calf skins		0.51		1.41
Sheep skins		6.02		2.53
Goat skins		482.43		369.36
Total		502.73		393.21
III. Finished Leather	(Sq. Dcm)		(Sq. Dcm)	
Cow hides	153.42	70.38	173.80	79.21
Cow calf skins	12.42	7.77	26.75	16.38
Buffalo hides	52.19	27.10	59.04	25.40
Buffalo calf skins	93.18	53.37	176.61	121.55
Sheep skins	272.26	175.04	461.01	347.29
Goat skins	770.67	521.47	1332.72	1035.47
Sub Total	1354.13	855.12	2229.93	1625.30
Other finished leather		123.87		159.13
finished sole leather		8.91		28.15
Total		987.91		1812.59
IV. Leather Goods				
Saddlery and harness		10.24		2.68
Handbags, wallets etc.		67.79		103.60
Belts and watch straps		3.13		3.33
Leather garments		20.88		36.49
Other leather goods		0.88		0.07
Total		102.92		146.17
V. Industrial leather manufactures		23.11		32.50
VI. Leather footwear		174.67		150.00
VII. Footwear components		79.37		83.65
VIII. Goat hair	1.03	3.28	1.64	4.86
IX. Other hair	0.10	0.90	0.27	2.15
Grand Total		2579.29		3304.03

photo-voltaic and thermal applications, modern optics, information systems and ocean science and technology. It was felt that possibilities for future cooperation also existed in several other fields including survey techniques, like cartography remote sensing as well as in earth sciences, environment, management, medical sciences, astronomy, biogas systems, etc.

A time-bound programme for fiinalising specific proposals in these areas has also been decided in the agreement.

Indo-Japanese Cooperation

The Governments of India and Japan exchanged notes recently in new Delhi concerning the extension of Japanese loan to India for Yen 6.2 billion (equivalent to Rs. 227 million at the current exchange rate) for purchase of jack-up rig for Bombay offshore oil field development project.

The notes were exchanged between Dr. Manmohan Singh, Secretary in the Department of Economic Affairs, Ministry of Finance, Government of India and Mr. Masac Kanayawa, Ambassador of Japan in India, on behalf of their respective Governments. This loan has been extended in response to the request made by the Government of India and in accordance with the pledge made by Japan at the Aid India Consortium meeting in Paris in June 1979 with a view to further contributing to the economic development of India.

At the Aid India Consortium meeting in June 1979, the Government of Japan pledged loans to India totalling Yen 27.6 billion for five projects.

Industrial Growth and Diversification

Step-up in Steel Supplies to Small Units

Steel supplies to small scale units have been stepped up substantially. During the first six months of the current financial year (1979-1980), about 205,565 tonnes were supplied to the State Small Industries (SSI) Corporations as against 118,890 tonnes in April-September, 1978.

Total supplies to the SSI Corporations for distribution to small industrial units went up from 176,000 tonnes during 1977-78 to 333,000 tonnes in 1978-79. Despatches in 1979-80 are expected to be over 500,000 tonnes. The despatches in respect of all the states have increased appreciably. In the case of West Bengal, for instance, despatches have been raised from 3,207 tounes in 1977-78 to 12,551 tonnes in 1978-79. In 1979-80, steel allocations to West Bengal are 31,000 tonnes.

Following the acceptance, by the Government and the Small Scale Industries Board, of the recommendation of the Balachandran Committee some years ago to route supplies of raw materials to the small scale units through the respective State Small Scale Industries Corporations, the policy of increased supplies through SSI Corporations, is being progressively implemented.

To further facilitate supplies, there is also a provision that if the steel requirements of a small unit could not be met from the SSI Corporation, the same could be supplied by the stockyard, if the material is available with them and if it is recommended by the concerned SSIC.

At a recent workshop of the Association of Indian Engineering Industries (AIEI) in Calcutta, some of the members had pointed out that several small scale units, which used to take the materials from the main producers stockyard, were now finding it difficult getting supplies from the SSI Corporations. It was, therefore, decided that, for the present, units whose offtake from the main producers stockyards had been 200 tonnes per quarter or more, could continue to be serviced by the main producers stockyard. The proposal that units whose requirements were more than 200 tonnes per quarter should get it from the stockyards is difficult to implement since there is no authentic information of the requirements of the small scale units all over the country assessed on a uniform basis. However, according to an already existing provision, a small unit whose requirement could not be met by the SSI Corporation, could draw supplies from the stockyards, subject to availability and recommendation by the SSICs.

Hike in Coal Output

Coal production during the first eight months of the current financial year has recorded an increase of about 1.2 million tonnes over the previous year, having gone up from 62.34 million tonnes in April-November, 1978, to 63.55 million tonnes during the corresponding months of the current year.

Output of the Coal India Limited (CIL) during April-November this year, estimated at 55.30 million tonnes, has been about 566,000 more than the estimated production of 54.74 million tonnes from the coal mines of the CIL

uring the corresponding period of the ast financial year.

Of the total CIL production, the Western Coalfields Limited (WCL) produced 16.36 million tonnes in April-November, 1979; the Central Coalfields Limited (CCL) 13.99 million tonnes; Bharat Coking Coal Limited (BCCL) 11.91 million tonnes and the eastern Coalfields Limited(ECL), 12.65 million tonnes. Frequent trippings and the overall constraint of power supplies from the Damodar Valley Corporation (DVC) to the mines in the eastern region caused production losses in the mines of the ECL and BCCL.

Despite the operational problems faced by the eastern mines of the CIL, Coal India's overall production in November 1979 stood at 7.5 million tonnes, as against 7.1 million tonnes in November, 1978. The WCL mines are estimated to have touched a record monthly production figure of 2.31 million tonnes during November this year.

Of the non-CIL coal mines, production of the Singareni Coal Companies Limited (SCCL) increased from 5.82 million tonnes in April-November last year to 6.30 million tonnes during the corresponding period of the current year. Collieries of the Indian Iron and Steel Company (IISCO) are estimated to have produced 525,000 tonnes during the same period, as against 298,000 tonnes during April-November, 1978.

Expansion Of MRTP Companies

As against 165 Monopolies and Restrictive Trode Practices (MRTP) companies with a total of Rs. 12,670 million allowed expansion or setting up of new undertakings during the period January 1974 to March 1977, only 116 MRTP companies were granted substantial expansions in their existing capacity or setting up of new undertakings with an aggregrate outlay of Rs. 12,290 million during the period April, 1977 to September 30, 1979.

Under the provision of the Monopolies and Restrictive Trade Practices (MRTP) Act, 1969, dominant undertakings or undertakings standing alone or together with inter - connected undertakings, whose assets exceed Rs. 200 million are required to seek prior approval of the Central Government under Section 21 for effecting substantial expansion in their existing capacity and also to set up new undertaking under section 22 of the Act.

Of the 116 proposals granted, 63 were for establishing new undertakings in different parts of the country and the remainings 53 for effecting substantial expansion of the existing capacities of these companies.

Of the total outlay of Rs. 12,290 million approved, Rs. 7150 million were to be utilised for setting up new undertakings, while the balance Rs. 5140 million for effecting expansion.

During the same period, the Department of Company Affairs rejected 30 proposals (12 for expansion and 18 for setting up new undertakings). The total outlay involved in the rejected proposals was Rs. 6190 million.

A detailed analysis prepared by the Department shows that from April 1, 1977 to December 31, 1977, in all 44 proposals (20 for expansion and 24 for new undertakings) with an outlay of Rs. 2440 million, were approved, while during January to December, 1978, in all 40 proposals (21 for expansion and 19 for new undertakings) with an outlay of Rs. 6080 million were sanctioned. During the current calendar year (January to September, 1979) 32 proposals (12 for expansion and 20 for new undertakings) having a total outlay of Rs. 3770 million were approved.

Most of the proposals approved (78) related to fields specified in Appendix-I of the Industrial Policy Statement of February 2, 1973 which are open to large houses and FERA (Foreign Exchange Regulations Act) companies. Besides the other proposals (38) which were sanctioned to large houses, though not included in Appendix I were nonetheless considered important in the interests of the country's economy and related to fields such as shipping, consultancy services, power generation, exports, mining, etc.

An analysis of the grounds of approvals granted to large industrial houses for expansion and for establishment of new undertakings shows that such approvals were granted mainly for the reasons *inter alia* that the projects were (i) capital intensive; (ii) involved sophisticated technology; (iii) intended to meet the requirements for domestic markets and / or for exports; (iv) to be established in centrally notified backward areas, etc. Similarly the rejections of these proposals were on the grounds *inter-alia* that (1) sufficient capacity was available, (ii) public sector or small scale sector angle was involved; (iii) the field was not open and (iv) the export obligation was not acceptable, etc.

The new undertakings, when they go on stream, will produce *inter-alia*

The saving of the government administrative departments increased phenomenally from Rs. 7340 million in 1970-71 to Rs. 25,680 million in 1976-77. In the case of the non-departmental public sector enterprises, the saving increased by nine times, from Rs. 700 million in 1970-71 to Rs. 6280 million in 1976-77. More than 80 percent of the savings of these public sector enterprises was generated from financial enterprises. Non-financial enterprises, on the other hand, incurred losses during the period except for the two years 1974-75 and 1976-77.

The saving rate showed a continuous rise during the last seven years from 12 percent in 1970-71 to 18.7 percent in 1976-77. Household was the major saving sector and its saving formed about 75 percent of total domestic saving during the period. The household sector's saving comprised about 46 percent in financial assets and 54 percent in physical assets in 1976-77

The share of organised sector in net domestic product increased from 27.7 percent in 1970-71 to 33.4 percent in 1976-77. The shares of public and private sectors within the organised sector showed divergent trends. The share of public organised sector increased from 52.3 percent in 1970-71 to 59.9 percent in 1976-77 while that of private organised sector fell from 47.7 percent in 1970-71 to 41.1 percent in 1976-77. The share of profits and dividends of public enterprises in NDP nearly doubled during the period from 9.5 percent to 17.8 percent. There was a significant shift in factor shares ; "Compensation of Employees" in organised sector, which formed 71.2 percent of NDP in 1970-71 declined to 66.4 percent in 1976-77.

The rate of capital formation measured as a proportion of net investment to net domestic product increased from 13 percent in 1970-71 to 17.2 percent in 1976-77. The investment ratio was higher than the saving rate upto 1974-75, but thereafter it showed a reverse trend.

Net current transfer receipts from the rest of the world increased more than four times from Rs. 1230 million in 1970-71 to Rs. 5280 million in 1975-76.

About 53 percent of domestic investment was made in public sector and 42 percent in household sector in 1976-77. Household sector being the only surplus sector in the domestic economy, invested about 63 percent of its surplus funds in the form of currency and deposits with the banks.

The quick estimates of national income of India for 1977-78 showed a significant real increase of 7.4 percent as compared with a real growth rate of 1.4 percent in 1976-77 which could be attributed to the substantial recovery of agricultural sector in 1977-78. Most of the non-agricultural sectors, however, recorded declines. The per capita national income in real and nominal terms increased respectively by 5.2 percent and 7.6 percent in 1977-78.

On the basis of available data the net domestic product in 1978-79 is expected to increase by 5 percent.

Science and Technology

Metol Making Process Developed

The Central Drug Research Institute (GDRI), Lucknow, has developed a process for making metol (p-N-methyl aminophenol sulphate). In the process paminophenol is reacted with monochloroacetic acid to give p-hydroxyphenyl glycine, which is decarboxylated to p-methyl aminophenol. This is converted to metol. The chemical has been prepared in the laboratory on 1 kg batch scale.

Metol is used as a photographic developer and in dying furs. Its present demand of about 10 tonnes per annum is met mainly by imports. The future demand for metol is estimated at 60 tonnes/annum.

Metol is a white or cream coloured crystalline powder becoming darker on exposure to air. It is slightly soluble in water and ash is not more than 0.1 percent.

The product developed by the laboratory has been tested and found suitable in all respects.

The main raw materials required are : p-aminophenol, monochloroacetic acid, cyclohexanone and isoproponal. All these are available indigenously. The main items of machinery required are : reactor (steam-jacketed, glass-lined), centrifuge, fractional distillation unit, industrial vacuum, pump, hot air drier, and crystallizer. All these are available in the country. The optimum capacity of an economically viable plant is estimated at 3 tonnes of metol per annum. The land requirement for plant and storage of raw materials will be 800 ft.^{2} and 2200 ft^2 respectively. The capital outlay for the unit is building Rs. 24,000; plant, Rs. 233,000 and working capital, Rs. 135,000. The cost of production is estimated at Rs. 150/kg.

Further particulars regarding this process (NRDC Process No. 793-10-8) can be had from : The Managing Director, National Research Development Corporation of India, 61 Ring Road, Lajpat Nagar III, New Delhi-110024.

Semi-automatic Multipoint Apparatus

A knowledge of the principal modes of vibration of a structure is essential in the solution of vibration problems in structural dynamics. While the natural modes could be obtained experimentally in a ground resonance test the main difficulty lies in exciting the undamped modes of a damped structure. The multipoint technique is one of the accepted techniques for the determination of natural frequencies, mode shapes and damping co-efficients for different modes of vibration of the structure. In this method the structure is excited simultaneously at a number of selected points, with controlled frequencies and forces so as to excite the chosen natural mode of vibration. Measurement of resonant frequencies, force distribution, for each mode and mode shape gives the required data for the evaluation of dynamic characteristics of complex structures. The tool that was developed for generating the vibration characteristics of a complex structure is designated as MAMPA-Manual Multipoint Apparatus (NAL) Newsletter, Aug. 1977). In this system both the force and the frequency of excitation are adjusted manually by iterative procedure to vibrate the structure in a monophase response.

Multipoint excitation is often employed as an attempt to force complex damped structure to vibrate the principal modes, but finding the necessary distribution of force amplitudes is a long and tedious procedure. There is, therefore, a need for a technique which will automatically find the required force distribution. But the experience in using a fully automatic system showed that automatic setting of force levels was often unnecessary. It was found that, provided there was automatic control of the excitation frequency, manual setting of the force distribution could be achieved by an iterative procedure with a little loss of time compared with a fully automatic system. The experience has also showed that with some structures it was impossible to achieve the required force and response relationships using a fully automatic system. In these cases a semi-automatic multipoint apparatus is used to obtain a "minimum error setting."

With this in view, a semi-automatic multipoint apparatus, with automatic control of frequency and manual control of force distribution was developed and fabricated in the Structural Sciences Division of WAL. The basic principle of operation of the system is that the phase difference between the structural response and the force input to the structure is compared with the demanded phase. Any deviation from the set demanded phase causes a change in voltage at the output of a servo integrator and results in a change in frequency of the voltage controlled oscillator, which drives the system. The forces applied to the structure by the exciter are adjusted manually. Once the level of the first exciter has been arbitrarily set, the frequency control servoloop maintains a 90° phase angle between the force input of that exciter and the acceleration response at the monitoring point on the structure. Iterative adjustments of force inputs are made with the force level controls until the required conditions are achieved.

The system has been tested to measure its performance by the Instrumentation Group of Structural Sciences Division and found satisfactory.

RITES Surges Forward in Overseas Market

During the sixties, Indian Railways made a beginning in export of railway technology. Consultancy services were rendered to Jordan, Syria, Iraq and Saudi Arabia in the Middle East, Zambia and Nigeria in Africa, and Philippines and Thailand in South East Asia. Services of railway experts and technicians were made available to assist in the operation, maintenance and managment of railway systems in Ghana, Nigeria, Zambia and Philippines.

With increasing demand for assistance in railway technology, export of services needed to be more systematically organised. For this purpose, a separate government enterprise was created in 1974 under the administrative control of Ministry of Railways and was christened "Rail India Technical and Economic Services Limited" (RITES). The technical and consultancy services offered by RITES span all fields of railway engineering and management covering the various disciplines such as civil, mechanical, electrial, signalling and telecommunication engineering; transportation and marketing; material and maintenance management, work study and operations research; financial control and accounting; personnel and general administration. Comprehensive inter-disciplinary coverage of all developmental aspects is a RITES speciality and the 'systems approach' in its search for an optimal solution, its forte.

With the backing of Indian railways, which is the largest railway system in Asia and second largest in the world under single management, RITES,

during the short period of its existence has earned an enviable reputation for itself in the national and international markets. India, during the process of its rapid industrialisation in the last three decades, has developed a technology which is most appropriate to other developing countries as well, with a suitable blend of sophistication and ease of operation and maintenance. It is this ability of the RITES to provide suitable technology to the developing countries, which has paved the way for growth of this organisation. Indian railwaymen are resourceful, innovative and adaptive in their approach and methodology; they have not only come to acquire expertise in their own professions but also a deep awareness of the challenges that face huge transport systems in a developing economy. They possess the skills essential for understanding and analysing the needs of transport, interpreting them in the context of national development and fashioning plans, grounded in a technology well suited to the special needs of each country. Herein lies the main strength of RITES; it enjoys the privilege of being able to draw freely, at short notice, from this vast reservoir of talent available on Indian Railways for organising study groups with expertise matching the requirements of assignments.

Since its inception in 1974, RITES has been quite active in the Middle East. During this short span of five years, four consultancy assignments have been completed in Iran and Syria; work on two others is in progress in Iraq and one offer submitted by RITES is under consideration of the Supreme Commission set up by the Government of Syria, Jordan and Saudi Arabia. Shortly RITES will be submitting two offers in collaboration with others to the Governments of Iraq and Syria. Brief details of these projects are given in the following paras.

In 1976, RITES carried out a feasibility-cum-cost study and preliminary engineering survey for a 325 kms electrified double line in standard gauge from Kerman to Shurgaz in Iran. The work involved consideration of various alternative routes, identification of the best alignment, conducting preliminary engineering studies along the preferred route, optimal location of stations and yards, selection of signalling and telecommunication system, defining of necessary infrastructure, terminal and maintenance facilities and laying down of operating practices.

RITES carried out another study in respect of the existing 92kms broad gauge line between Zahedan and Meerjaveh in Iran in 1976 to suggest measures for its strengthening and rehabilitation to make it fit for carrying 5000 tonnes of traffic per day as against the existing level of 600 tonnes per day. Recommendations were made for rehabilitation of roadbed, track and bridges and strengthening of the infrastructure for transporting and handling the higher level of traffic.

RITES completed in the year 1978, an extensive study of the existing Iranian State Railway network spread over 4000 kms, for defining an action plan for programmed renewal rehabilitation and modernisation of track. A 10-year plan was defined for rehabilitation of tracks on the entire network indicating phasing of financial inputs, detailed planning for executing the work and methods of maintenance.

In the year 1976, RITES completed in Syria a techno-economic feasibility study for three new railway lines aggregating 450 kms and connecting Deri-ez-Zor with Abu Kamal; Deir-ez-Zor with Palmyra; and Lattakia with Tartus. The major objective of the study was to assess the technical feasibility and economic viability of the three lines considering various alternative routes indicating the construction schedules, investment profiles and the detailed infrastructure required for operation and maintenance. In December 1978, RITES was awarded a contract by the Iraqi Ministry of Transport for rendering general engineering services to the Railway Project Organisation, Ministry of Transport, Iraq, for their Baghdad-Hsaibah-Al Qaim - Akashat new line construction project. A team of 113 experts and technicians will be assisting the project authorities in contract administration, construction management and supervision. About 45 experts and technicians have already joined the organisation and the remaining will be in position according to a pre-determined schedule in the next few months.

In May 1979, the Ministry of Transport of the Government of the Republic of Iraq, awarded another contract to RITES for making available the services of 8 specialists from various railway disciplines and two surveyors for their Project Study Cell. This team will be assisting their Organisation of Studies and Designs for the railway projects proposed to be undertaken in near future.

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economic and commercial news

News Highlights

Promoting Indo-GDR Economic Cooperation

New areas of technical and economic cooperation between India and the German Democratic Republic have been identified as a result of discussion recently held in New Delhi between the delegations of two countries. These areas relate to dairy machinery, textile machinery, printing machinery, electric typewriters, optical glass and opthalmic blanks, copper clad laminates and copper foils, food processing equipment, computers and so on. It has also been agreed that effective bilateral association would be made in the implementation of progress in the two countries.

Indian Firm Bags Kuwaiti Contract

According to a commercial report issued by the Embassy of Knwait M/s STUP Consultants Ltd. have secured another contract valued at Rs. 0.15 million as associate consultants to a Kuwaiti consultancy group to prepare drawings and tender documents for a catering complex and crew training centre for Kuwait Airways Corporation in addition to contract for

(*contd. on page 2*)

Export Performance and Potential

Recommendations of Working Group on Export Houses

The Working Group on Export Houses has recommended to set up specialised international marketing organisations with principal function of export marketing. These bodies should have an extensive marketing net-work abroad and an effective procurement machinery at home. In its final report, it has pointed out that the policy for export houses shall have a significant role to play in this context.

The Working Group has also recommended, as a long-term measure, the constitution of a high-powered Committee or Board in the Ministry of Commerce to oversea the entire scheme of export houses and to supplement the present arrangement of the supervision by the Chief Controller of Imports and Exports (CCI and E). It has suggested that the proposed Committee or Board may consist, among others, of Chief Controller of Imports and Exports, Export Commissioner, a Joint Secretary in the Ministry of Commerce, Development Commissioner, Small Scale Industries (DCSSI), a representative of Federation of Indian Export Organisations (FIEO) and some other experts. The Committee or Board may lay down requirements to be fulfilled by an export house before it qualifies for renewal of its export house certificate.

It may be recalled that the Working Group on Export Houses was set up in November last year to review the performance of export houses and their contribution in the development of exports; to examine the role

preparing drawings for a jumbo hanger. They have also been awarded a contract valued of Rs. 1.8 million for supervision of the construction of the jumbo hangers and other structures.

National Industries Fair '80

The Trade Fair Authority of India will be organising National Industrial Fair from January 21 to February 3, 1980 at Pragati Maidan, New Delhi, on the heels of the successful conclusion of the monthlong India International Trade Fair on December 9, 1979. The fair would provide a glimpse of all round progress registered in Indian economy. Apart from new opportunities of business and shopping bargains, the fair will provide attractive opportunities for retail sale of wide-ranging goods.

India's Foreign Trade

According to provisional figures, India's exports during the first seven months of the current financial year aggregated to Rs. 33,717 million, as compared to the Rs. 29,707 million during April-October, 1978, thereby marking a hike of 13.5 percent. The import bill has provisionally been placed at Rs. 43964.8 million.

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that could be assigned to export houses in implementing Government's foreign trade policies and also in promoting export-oriented production, especially small scale and other sectors; to examine the role of export houses in organising efficiently import requirements needed for strengthing domestic production including export production; and to suggest measures that may be required to make these houses more effective instruments of export promotion. The 12-member Committee was headed by Mr. L.C. Jain, Chairman, All India Handicrafts Board, New Delhi with Mr. B.K. Zutshi, Export Commissioner as Member-Secretary.

Mr. Jain, in his preface to the report, has remarked that the size of the Indian exports has increased substantially in the past 10 years. While exports have been rising, a glance at the composition of exports shows wide fluctuations. He has emphasised the need to adopt policies and measures which can impart greater stability and minimise downward fluctuations. An analysis made by the Committee, he adds, has revealed that while the country's exports in the past three years increased only at an average rate of 9 percent, the combined exports of the export houses registered an increase of 26.5 percent. Within the export houses, the merchant export houses appear to have fared better and the reasons for this appear to be the relative ease with which they are able to diversify the products and markets.. According to him, at the decision-making level, the commitment to achieve minimum export turn-over is obviously more pronounced in the case of merchant exporters who live primarily on the export-import trade. He has suggested that in the larger interest of the country today, it is necessary to support those instruments more vigorously which are better suited to increasing the volume of exports.

The Working Group has made quite a few short-term recomnndations as well.

One of the long-term recommendations of the Group suggests that export houses emerging as highly satisfactory be given liberal support for their expansion plans. As to short-term measures, it suggests that export house should increasingly involve themselves in the development of small scale industry, cottage, rural and tiny sector and should provide them active and competent technical assistance service to strengthen and diversify their industrial base. The small scale industries development organisations should play a very active role to bring about greater involvement of small scale sector.

The Group has laid down the criteria for eligibility, enumerated import facilities and suggested that at least 10 percent of the total export of export house in a year should be the exports of the products manufactured by those whom the export houses had supplied imported in-puts in the same year.

A review of performance of export houses conducted by the Group shows that 175 of the export houses are merchandising houses while 291 are manufacturer export houses. The share of 175 merchandising export houses in total exports of export houses is 42.5 percent and that of the manufacturer export houses, the share is 57.5 percent. Only 184 export houses (39 percent) exported products falling under more

than one product group while 284 (61 percent) exported goods falling under only one product group. The share of SSI manufacturers in the total exports effected by export houses during 1975-76, 1976-77. 1977-78 works out to 29 percent.

The in-depth study showed that the share of the export houses in the total exports varied between 37 percent to 46 percent during the three years. The export made by them of select and non-select products during the said period were Rs. 779.2 million and Rs. 4956.9 million respectively.

The broad picture revealed by the analysis showed that the share of export houses in the country's total trade was decreasing. Merchant export houses, however, were able to increase their exports while the exports of manufacturers export houses suffered a decline. The import of commodities falling under select list in the Import Policy Book was only one-third of the total exports of the export houses. Among other conclusions drawn was that the diversification of export products and markets had been a remarkable feature of export houses efforts, as also promotional efforts by way of opening foreign offices, participation in foreign affairs/exhibitions. The share of SSI products in the merchandising and large scale manufacturing export houses, particularly, those with annual average exports of Rs. 100 million was rather negligible.

The Committee found that whatever be its other merits, the system of actual user imports and administrative ceilings on the value of imports of individual items against licence had resulted in unfortunate fragmentation of units of purchases making imports costlier than necessary. The size of Indian imports was enormous and growing. Even a marginal cost reduction would mean substantial savings in absolute terms. India's imports were Rs. 60,250 million in 1977-78 and are projected (by the plan) to rise to Rs. 391,460 million by 1982-83.

ESCAP's Committee on Trade Meets

The annual session of the Committee on Trade of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) was held recently at Bangkok.

Apart from reviewing, in the regional context, the current international issues such as the international development strategy for the coming decade, the follow-up of the UNCTAD V and the outcome of the Tokyo Round of the MTNs (Multilateral Trade Negotiations), the Committee devoted particularattention to intra-regional trade expansion to utilise more fully the fast growing productive and absortive capacities of the markets in the region, in pursuance of the progrmme of intra-regional trade expansion adopted at the level of Ministers in a meeting that took place in August 1978 at New Delhi in lieu of the previous annual session of the Committee.

The Committee called upon the developed countries to dismantle protectionist barriers and to make good the ommissions of the MTNs in respect of the items of export interest to developing countries of the region through further improvement of their GSP (Generalised System of Preferences). The Committee also decided on a regional meeting of developing countries to discuss the textile trade in the context of the proposed review and renewal of Multi Fibre-Arrangement.

Besides adopting a work programme for a number of studies to be carried out of benefit to developing countries generally or of special relevance to the trade of least developed, land locked and island developing countries, the Committee recognised the need for expanding the membership of regional institutions, like the Asian Clearing Union, Asian Re-insurance Corporation and Asain and Pacific Tele-Community in order to enhance the utility of such regional arrangements. It expressed the hope that ESCAP would be assigned a due role in the proposed GSTP for exchange of trade preferences amongst developing countries.

The session of the Committee was attended by all the major developed countries, such as USA, USSR, UK, France, West Germany, Japan and Australia, besides all the major regional countries in the Asia and the Pacific region.

Furthering Indo-African Co-operation

Government of India have given a grant of Rs. 5 million to the United Nations Trust Fund for African Development. An agreement to this effect was signed in Addis Ababa on December 13, 1979 by Commerce Secretary, Mr. A. S. Gill on behalf of the Government of India and the Executive Secretary of the Economic Commission for Africa Adebayo Adedeji.

These funds would be utilised by ECA for obtaining experts and consultancy and training services from India in different fields. The projects identified for such collaboration include assistance to African countries in the areas of procurement and supply management, building materials production and construction services, rural technology and surveying and mapping. The agreement is initially valid for three years.

Speaking on the occassion of the formal signing of the agreement Mr. Adedeji recalled his visit to India in May 1979 during which he had held wide ranging discussions on future cooperation between India and African countries. He said that he had been much impressed by India's technological and industrial advancement and that India could make a significant and meaningful contribution to Africa's economic and social development.

He stressed that India had now set an example to the world by being the first non-African developing country to contribute to the U.N. Trust Fund for African Development.

The Commerce Secretary referred to India's long-standing ties with African countries and said that the present agreement gave a multilateral dimension to India's existing programmes of bilateral cooperation with African countries. India was also happy to have this opportunity to visibly demonstrate its commitment to the various resolutions adopted by the United Nations and the non-aligned Movement calling for collective self-reliance and increased cooperation among developing countries.

The Commerce was in Addis Ababa for three days at the head of a five member delegation for discussion with the ECA. He also held detailed discussions with the Ethiopian Foreign Trade Minister during which preliminary agreements were reached on the expansion of trade and economic ties between India and Ethiopia.

Export Potential of Leather Garments in Netherlands

According to a commodity note on leather and leather goods products issued by the Embassy of India, Hague, there are good possibilities of augmenting Indian share of leather garments and travel goods to the Netherlands.

The note says that the Netherlands is famous for its cattle farms and dairy industry. It however, depends mainly on imports for leather for its leather industry. In 1970, there were large number of units in the leather industry. In recent years many of them have closed down due to stiff competition from abroad. Now the Netherlands industry is specialising in expensive articles, such as hand bags, fashion gloves, horse saddles etc. There are at present about 34 registered tanneries, 125 shoe factories and 280 other units. Majority of these units are rather small employing about 10 workers. But their production techniques are quite advanced.

The EEC countries especially Germany, Italy and France constitute both the main source of supply of leather and leather products as well as the main market for Netherlands own products. The over all Dutch imports of the leather and leather products in 1978 amounted to 301 milllon guilders and exports 216 million guilders.

Majority of leather items imported from the developing countries are small articles, such as school bags, working gloves, pouches etc. Most of the items are supplied by Far East. Some quantity of finished leather is imported from South America and South East Asia. The South American leather is normally of thicker bovine type. Far Eastern countries like Hong Kong and South Korea meet substantial Dutch demand for small leather products Approximately 26.7 percent of total Dutch imports of leather products are from Far East and Asian region.

Import of leather products into the Netherlands from developing countries other than ACP countries are regulated by GSP quota. The prevailing quota's for few important items are given below :

4231 BTN garments Benelux quota
2 million Dutch guilders
4202 b travel goods Benelux quota
3.5 million Dutch guilders
42032 hand gloves EEC quota
17 million EU
42039 sheep leather EEC quota
3 million EU

Within the quota fixed, entry of goods is allowed free of duty. Over and above the quota import duty has to be paid ranging from 3 to 15 percent depending on the product. Goods originating from ACP countries are admitted free of import duty without limit.

The Indian leather mainly finds its way into this country from Germany and France after-re-processing. The Indian leather especially top grade

bovine hide is used for livings and finer leather items. Dutch imports of leather from India during 1978 were about 6.5 million guilders and leather products about 1.9 million guilders. The note adds that although India's share in the Dutch leather market is small, there has been a steady improvement both in terms of quantity as well as in terms of value.

Enquiries made from the Dutch importers of leather products from India indicate that Indian prices are competitive. Quality and workmanship are also acceptable. Constraint on expansion is the uncertainity of delivery and irregularity of Indian supply. The note points out that as far as leather fashion bags and garments are concerned, the Indian fittings are poor in quality compared to the supplies from Italy, South Korea and Hong Kong.

The total production of Dutch leather clothing industry is worth about 40 million guilders, out of which about 5 million guilders worth of leather garments are produced overseas. Some of the Dutch companies have production facilities/arrangements in South Korea and Hong Kong. Of late the Dutch films are buying from India also. Out of the Netherlands' mport of 151 million guilders worth of garments in 1978, Indian share is around 5 million guilders. EEC and and South Korea accounted for 60 and 50 million respectively. Next to South Korea, India is the main supplier from Asia. The note sounds that there are definitely very good possibilities to increase the Indian share, provided timely delivery, quality and good workmanship are ensured.

There are substantial imports of leather/artificial leather travel goods into this country. India's share in this particular sector is, however, neglible. India's exports in 1978 amounted to Dfl. 3.376 million as against the Netherlands total imports worth Dfl 161.67 million. The note in this connection states that there are good possibilities of improving India's share. The share of pure leather travel goods as a whole is shrinking and is slowly taken away by synthetic products due to price difference. Leather travel goods like suitcases, shoulder bags, sports bags are more vulnerable to substitution by plastic and artificial leather goods made out of synthetic material are popular because of their strength to withstand rough handling during travel. It will, therefore, be difficult to market pure leather travel goods in mass scale in this area due to heavy competition from synthetic products. So efforts should be more on exporting travel goods having a combination of canvas/clothing/synthetics and leather which will be much cheaper than pure leather travel goods. It is also important to ensure very good quality handles and locks.

It is rather difficult to recommend on the shapes and sizes of the travel goods. As far as the colour range is concerned, brown, jeans blue, black and natural shades are acceptable in this market.

About 9.5 million pairs of high quality leather shoes are produced locally. Cheap quality leather footwear is imported from various sources for home market. As a matter of fact the local industry cannot compete in prices with imported cheap quality footwear due to high labour cost and establishment expenses. This is one of the reasons why the local industry is specialising exclusively in high quality leather products. Italian footwear has got a substantial market especially in cheap quality shoes and ladies footwear. Italian footwear is at least 30 percent cheaper than locally produced product. There is a growing trend with Italian suppliers to use synthetic sole to keep the production cost low. An average quality Italian shoe is sold at retail price of about 60-80 guilders. However, Indian summer outfits especially for ladies are imported. Ladies summer footwear offers limited possibility for expansion. Introduction of Indian shoe require substantial improvement in quality especially the finish and adaptation in suitable chemicals and glues in manufacturing. The shoes should withstand the cold and wet climatic conditions here.

The distribution pattern of leather goods in Netherlands is as follows : manufacturer / exporter; importer/ whole-sale merchant/mail-order houses retailer; and consumer. Generally the importers / wholesalers' margin will be between 20 to 30 percent and the retailers mark-up will be somewhere between 60 to 80 percent and in some cases even more. In addition to this, there is a value added tax of 18 percent on the ultimate selling price.

As far as packing is concerned, there is no standardization in the Netherlands. Importers generally instruct about type of packing they require. However, it is advisable to pack expensive items like garments, fancy

bags etc. in polythine and the wrap the bundle with water-proof paper in order to avoid fungus formation on the leather. Shipments are effected both by air and sea. Garments are generally airfreighted.

There are possibilities for Indian firms to participate in the annual Dutch leather fair. The CBI (Centre for the Promotion of Imports from Developing Countries) organises an exclusive leather trade fair at Rotterdam with their financial assistance. The next fair will be held in November, 1980. Details of this trade fair can be obtained from the Director, CBI, Post Box No. 3009, Rotterdam. CBI has also a show room wherein the samples of the exporters from the developing countries are displayed. Indian exporters can send samples to CBI after getting necessary particulars from them.

The commodity note concludes that there are good possibilities for Indian exports especially in leather garments and travel goods provided regular supplies, timely deliveries, high quality material and high quality fittings are ensured. The Embassy of India in the Hague and the CBI help in export promotion.

India's Foreign Trade Trends

India's imports in October 1979 have provisionally been placed at Rs. 5828.4 million. The exports including re-exports for the month were Rs. 3986.4 million.

According to provisional figures for April to October 1979, the imports bill has provisionally been placed at Rs. 43,964.8 million and exports have earned for the country Rs. 33,717 million. The gap between imports and exports in the first seven month of the current financial year comes to Rs. 10,247.8 million. In the corresponding period last year, the adverse trade balance was Rs. 6,414.0 million when the provisional figures for imports were Rs. 36,121.2 million and exports Rs. 29,707.2 million.

Imports between April to October, 1979 are higher by 21.7 percent over the corresponding period last year and exports by 13.5 percent. Exports in April to October, 1978 were provisionally Rs. 29,707.2 million and imports Rs. 36,121.2 million.

Exports of Chemicals and Allied Products

Exports of basic chemicals and allied items improved to Rs. 511.4 million during April-July, 1979 as against Rs. 428.2 million during the corresponding period of previous year. Of the total, exports of drugs, pharmacuticals and fine chemicals rose to Rs. 195.2 million from Rs. 184.6 million; dyes, intermediates, alchol and coal tar chemicals to Rs. 86.1 million from 72 million; basic organic and inorganic chemicals to 75.3 million from Rs. 66.1 million; glycerine, soaps, detergents cosmetics and toileteries to Rs. 48.6 million from Rs. 31.6 million; crude drugs from Rs. 54.3 million to Rs. 40.2 million and essential oils to Rs. 30.5 million from Rs. 8 million. However, exports of agarbattis declined to Rs. 19.3 million from Rs. 22 million.

Exports of other chemicals and allied products amounted to Rs. 458.94 million during the first four months of the current financial year as against Rs. 522. 2 2 million during the corresponding period last year.

Rising trend was noticed in the exports of paints, varnishes and allied prodcts, processed minerals and refractories, books and publications, crushed bone grist and fartilizers and ossein glue and gelatine. Rubber manufactured products, footwear, glass and glasswares, plywood and products thereof, ceramics and allied products, as also paper products, however, did not share the upward trend.

In case of paints, varnishes and related products, the foreign exchange earnings increased from Rs. 47.20 million in April-July, 1978 to Rs. 50 million in April-July, 1979 thereby recording an increase of 28 percent. Exports of processed minerals and refractories climbed up to Rs. 102.60 million during first four months of the current financial year from Rs. 96.26 million during the same period last year, thus registering a rise of 62.4 percent. Export of books and publications displayed a hike of 33.2 percent by advancing from Rs. 14.68 million to Rs. 18 million during the period under review. Crushed bones, bone grist and fertilizers pushed up their export performance by 47.8 percent by improving from Rs. 23.35 million to Rs. 28.12 million. Exports of ossein, glue and gelatine scaled up to Rs. 31.20 million from Rs. 29.36 million, thereby marking up by 18.4 percent.

National Industries Fair 1980

The Trade Fair Authority of India will be organising a National Industries Fair from January 21 to February 3, 1980 in the Pragati Maidan Complex, close on the heels of the successful conclusion of the month-long India International Trade Fair on December 9, 1979.

As many as 21 States and Union Territories, 11 Central Ministries and Departments of the Government of India, 25 leading Public Sector Undertakings, 20 Export Promotion Councils and Commodity Boards and a large number of manufacturing and trading enterprises in the private sector will be participating in the National Industries Fair '80.

The India International Stamp Exhibition to be organised by the Department of Posts and Telegraphs from January 25 to February 3, 1980 will be an added attraction to the visitors to the National Industries Fair. This Exhibition displaying some of the world's rare stamps, will be housed in the Hall of Nations and the New Complex at Pragati Maidan.

Foreign delegates attending the UNIDO Conference to be held in New Delhi simultaneously will be able to have a glimpse of the progress registered by the Indian economy as focussed in the National Industries Fair.

Apart from new opportunities of business and shopping bargains, the Fair will provide attractive opportunities for retail sale of a wide variety of handlooms.

Similarly, the various participants including State Governments and Union Territories will be organising counter sales of textiles, handicrafts, household appliances and consumer articles at attractive prices.

Cultural programmes, mini train, craft demonstrations at Rural India Complex and other pavilions will be some of the other attractions.

For business men, the Business Information Centre will provide necessary assistance by way of dealing with trade enquiries and establishing contacts among potential customers.

Durgapur Steel Plant Makes Headway

Durgapur Steel Plant is estimated to have earned a net profit of Rs. 43.7 million during 1978-79. Estimates of the plant's financial performance during the last financial year relate to the period May 1978-March 1979, since the restructuring of the Steel Authority of India Limited (SAIL) in May, 1978. This is significant against the backdrop that Durgapur Steel Plant had incurred a loss of Rs. 175.4 million in 1977-78, Rs. 77.3 million in 1976-77 and a loss of Rs. 200.58 million in 1975-76.

Several schemes of technological improvement are currently under way to enable the plant to improve its performance with suitable additions, modifications, balancing facilities and replacements over the five year period, 1978-83. Besides technological improvements, these also include schemes to ensure proper supply of raw materials and to augment in plant power generation facilities.

In view of the severe constraints of power supply to the steel plant from the Damodar Valley Corporation (DVC) system continuously hampering production, two coal-based thermal generating units of 60 MW each are being set up at the Durgapur Steel Plant and the Alloy Steels Plant, Durgapur. The first of these captive generation units, sanctioned last year, is expected to be commissioned by March, 1982.

Production of Railway Rolling Stock

The three production units and the railway workshops manufactured 17 locomotives, 13 shunters, 62 coach shells, 59 finished coaches and 140 wagons during the month of October, 1979.

The Chittaranjan Locomotive Works (CLW) turned out five electric locomotive and three diesel shunters while the Diesel Locomotive Works, (DLW), Varanasi, produced twelve diesal electric locos and ten diesel electric shunters.

During the month, the Integral Coach Factory (ICF), Madras produced 62 fully furnished coaches and EMUs and 59 unfurnished coach shells.

A total of 752 wagons (in terms of four-wheelers) were manufactured against 750 in the previous month. Out of these, 613 were produced by the industry and the rest in railway workshops. As many as 128 wagons in terms of four-wheelers were also released from the previous holding of stabled wagons.

engineering industries in India accounted for nearly a third of all industrial production and a substantial part of the engineering industry was in the small and decentralised factories. In country's present stage of development of alternative material sources and the over-rising costs of high energy or petroleum based materials, it was the iron and steel industry which had to provide the sinews of industrial development. It will remain for a long time not only the provider of basic inputs but also the pace setter for India's economic growth, he added. Referring to the demand for steel within the country, the Secretary informed that the same was stagnant during 1975-76 and 1976-77 but it started picking up in 1977-78 and in early 1978, the situation suddenty changed and there was an unexpected spurt in demand. In 1977-78, steel consumption showed a rise of about 10 percent over the consumption in 1976-77. But the consumption in 1978-79 was nearly 16 percent more than that in 1977-78. It is estimated that in 1979-80, the growth rate would be of the order or at least 10 percent. A minimum compound rate of growth of 10 percent is olso likely to be sustained for the next decade or so due to very large investments planned in the power sector including generation, transmission and distribution as well as on rural electrification and lift irrigation schemes, growing demand from the railways, the automotive and the agricultural sectors as also a large programme of industrial development. This would require large investments in the steel sector in the eighties and beyond. Although today the domestic demand for steel was partly being met through much larger imports and with only marginal exports against earlier commitments, the industry should plan for self-sufficiency, if not for some surplus for exports, so that shortages were not perpetuated. In the circumstances, there was need to devise a suitable strategy for the development of the steel industry which would give additional capacity and production with minimum investment and to take advance and timely measures considering the inevitable gestation period involved.

The Secretary remarked that the problems of raw material for iron making, therefore, needed to be considered in this context. The steel industry in India had developed along the lines conditioned by certain factors including the availability of indigenous raw materials including coking coal, although it was a fact that the steel industry in some of the developed countries, had been moving away from the old notion about self-sufficiency to search for the best and the most economic raw materials from wherever these were available; Citing Japan's case, he said that in any case she had no option in this matter as she had no raw materials of her own. But hers was a classic example where she had shown that by judicious selection of raw materials from all over the world coupled with appropriate technology and intensification of operating parameters, she had been able to achieve a dominant position in the world steel industry, he added. It was, however, obvious that, so far as India was concerned, there would be a limit to what she could import from outside; by and large, she will have to depend upon her own resources. But taking this into account, the productivity of industry's main production ur should be optimised such as the bl furnaces, which seemed to determi the ultimate viability and profitat lity of a steel plant. This wou require scientific blending of the ra materials and adoption of high operating parameters in terms blast temperature, top pressure an sinter charge in the burden. T performance of the blast furnace Bokaro as compared to the oth plants clearly established this. H continued that it was equally we known that unless improvements i raw materials preceded improvemen in operating parameters, the fu benefits of higher operating para meters could not be reaped. Th size of blast furnaces was also goin up all over the world to achiev economies of scale. While the bigges furnace operating in India was only 2,000 m^3 at Bokaro, the biggest blast furnaces in the world were over 5000 m^3. Of course, the blast furnaces at Visakhapatnam Steel Plant will be of the capacity of 3200 m^3, which as things stood today, seemed to be the optimum size for India based on indigenous raw materials with 20 percent imported coking coal. Larger capacity blast furnaces could only be useful if these were operated under intensified operating conditions for which they will have to be fed with superior and consistent quality raw materials including coke of much greater micum strength. Any deterioration in the quality of raw materials will not only minimise the benefit of higher productivity but also impair furnace operation, he pointed out.

Touching upon a serious problem regarding raw material, the Secretary

oned against the rapidly depleting limited reserves of coking and its poor quality due to high content which increased on g from deeper seams. He that consequently the ash in had increased to 25-28 percent. created operational problem and to high coke rate and low ctivity in the blast furnaces. ddition, the washeries were g plant maintenance problems had cut the through-put. her serious difficulty lay in the variations in coal quality.

Secretary further continued that g coal sitution underlined the cy of stretching out the indige- supplies through upgrading of ash coals by suitable benefication e use of large misture of semi and ly coking coal or non-coking in the blends and by the use of prepared burden along with other ological improvements in the furnace. Attempts to improve oal quality had to start from the of coal mining with a proper n of grouping and classification oals from the various mines ding to their properties so as ring a measure of uniformity e quality of coal supplies to the eries. R and D efforts were l for in effecting improvements e existing washeries and also ablishing new techniques like oil meration for a higher degree of hing. The oil agglomoration ss of coal de-ashing level by the ral-Fuel Research Institute looked ising; laboratory and bench-scale were reported to have given hope- ndications and if so, urgent and ve steps should be taken for fur- development and commercial itation of this technology. He added, from the point of conservation of coal reserves, however, it was important to keep the yield of beneficated coal at a high level.

The Secretary pointed out that besides high ash in coke, the strength of Indian coke was also poor. The strength in terms of Micum-10 index in Indian coke is between 10-14 whereas countries with advanced blast furnace technology use coke with M 10 value between 7 and 8. The strength of coke was more important for bigger size blast furnaces. Barring limitations caused by nature, possibilities of some improvements in coke strength existed by improving coal preparation and coking practices like selective crushing, briquette charging, pre-heating of coal, dry quenching etc. Their adoption had however, to be judged on the basis of techno-economic merits in individual cases.

The Secretary was gratified to note that SAIL and its R and D centre had already made a beginning in this direction. Processes for partial introduction of briquetting of coal charge for substitution of coking coal by non-coking coal and preheating of coal for improving the quality of coke or introduction of inferior coal in the blend were being considered. SAIL expected to enter into collaboration with Japan before long for getting the technology for the use of briquetted coal in blast furnaces. Steps will, thereafter, be taken for the setting up of briquette blend coking process facilities to initially meet the requirement of one or two coke oven batteries at Bokaro or Bhilai; tests conducted in pilot plant scale had shown that upto 30 percent of non-coking could be used in blends. The programme of introduction of technological improvements and innovations at Bhilai will include a number of processes for improvement in productivity including coal dust injection. The therefore, was an area which needed the urgent and concentrated attention of India's technologists and engineers.

The Secretary pointed out that as against coking coal reserves in India which were quantitatively small and qualitatively inferior, India was well endowed with rich resources of good quality iron ore. However, the ores which were rich in iron content, contained high alumina-silica ratio resulting in low blowing rates, higher coke rates, higher alumina in slag and other related operational problems in the blast furnace. Any attempt in enriching iron ore by conventional methods of washing increased the difference further. The development of benefication process aiming at reducing the alumina—silica ratio alongwith improved iron content, therefore, needed immediate attention. In this direction, R and D Centre of SAIL was presently conducting benefication trials with the use of polymer additives at Bursua and the preliminary results of commercial scale trials are encouraging. Further trials were in progress to establish the parameters and techno-economic indices of the process.

Although the benefits of close range sizing of iron ore were well established all the world over, most of the Indian blast furnaces were still operating with 10-50/ 0 mm sizes. Many of the plants had felt the need to narrow down the size range of lump ore and increase in sinter charge in the burden by using surplus fines generated. Probably the most important item in the preparation of blast furnace feed was to improve the consistency in physico-chemical properties of raw

materials. In this direction, a considerable gap still existed in most of India's steel plants, except perhaps in regard to Bokaro. The Secretary disclosed that all the plants were now seriously considering installation of necessary facilities for blending, sizing and screening of iron ore at the mines and the plants. The practice of sintering and the use of super-fluxed sinter in the blast furnace had already been established but there was need to increase further the sinter content in the blast furnace burden which at present was in the range of 25 percent to 40 percent only except in the case of Bokaro where 70 to 80 percent sinter burden was being used. Higher sinter content gave additional benefit by eliminating the raw flux charge which, in turn, reduced the coke rate. Besides, sinter feed enabled the utilisation of ore fines from the mines and those resulting from close sizing of ore and screening. In addition to the need for increasing sinter of content in other plants, proper control of sinter quality with respect to cosistency and strength was also required. Well directed R and D efforts should be helpful in this direction.

Although in many countries, pellets were being used in the blast furnace burden so as to ensure better uniformity in size and chemistry, these had not been introduced in a big way in India as sinter charge is cheaper than pellets. The position now was even more favourable in the case of sinter charge because of their rent oil price hike, pelletisation involved a fairly large consumption of oil.

The quality of SMS grade limestone in India was also not considered satisfactory because of its high silica content which led to high slag volume in steel making and consequent poor yield. The quality of dolomite and magnetic for the production of basic bricks used for lining of LD converters was similarly considered unsatisfactory. In country's plants, the lining life was normally less than 200 heats as compared to over 1000 heats in some other countries. The Secretary urged that sustained and systematic efforts were, therefore, urgently called for to improve the lining life. This was all the more necessary as new steel plants will be based on basic oxygen steel making processes. New and imported technologies were therefore, called for the benefication of the available raw materials as also in brick making.

The Secretary informed in the strategy for the future development of the steel industry, the electric arc furnace route will necessarilly have to play an important role. This would ensure that local or special demands in comparatively small quantities could be met through a widely spread industry all over the country. Besides, in the country where iron ore and non-coking coal were in abundance and funds for capital investment were scarce, this route offered some distinct advantages. The capital cost of steel making facilities will be substantially lower, gestation period will be much shorter, cost of production will also be lower and environmental pollution could be controlled with less much investment.

In the case of the electric arc furnaces used for steel making, the major difficulty would be the non-availability of the main feedstock, namely, the steel melting scrap. Fortunately, the development of technology fo manufacturing sponge iron in th last few years may come to rescue However, in the absence of natura gas reserves, the country had no alter native but to take recourse to th production of sponge iron usin non-coking coal, of which she ha large reserves, as a solid reductant India had in very urgent need of viable technology for the productio of sponge iron and if she was able t achieve a breakthrough in this, i would, greatly accelerate the develop ment of steel capacity in country.

Referring to technology transfer, th Secretary remarked that in a capital intensive industry like iron and steel, i was essential to adopt the latest tech nology to ensure efficiency in produc tion product quality and lower cos of production. The time-consumin nature of developing indigenou technology and the huge resource required therefore pointed to th advantage of availing of technologica advances made elsewhere. He urged t borrow with advantage advance techniques and creatively adapt then and modify them to suit countr special needs and conditions, instea of pursuing the wasteful process o acquiring basic know-how by 'reinve nting' things. He thought that ther should be no inhibition in usin technology from industrially advance countries on a highly selective basi till such time as indigenous R and D efforts and engineering services coul meet the country's requirements t the full extent.

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